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Student athletes' collegial engagement and its effect on academic development: A study of Division I student athletes at a Midwest research university

Susan Beth Hathaway
William & Mary - School of Education

STUDENT ATHLETES' COLLEGIAL ENGAGEMENT AND ITS EFFECT ON ACADEMIC DEVELOPMENT: A STUDY OF DIVISION I STUDENT ATHLETES AT A MIDWEST RESEARCH UNIVERSITY

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Susan Beth Hathaway

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Susan Beth Hathaway

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Dorothy E. Finnegan, Ph.D.
Chairperson of Doctoral Committee

David W. Leslie, Ed.D.

J. Douglas Toma, J.D., Ph.D.

Dedicated to the loves of my life -- Steve, Aidan and Anna.

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ABSTRACT

This study examined athletes and non-athletes at a Midwest research university with Division I NCAA state. Both groups took the 2004 National Survey of Student Engagement. Analysis of the results examined differences in the benchmark scores for athletes and non athletes in the areas of "academic challenge," "active and collaborative learning," "student and faculty interaction," and "engaging educational experiences." Levels of engagement were measured and interaction between engagement and academic success as measured by grade point average were investigated. Non-athletes, who work outside the home and spend more time as caregivers, are more engaged with their university academically. They take harder courses, study more, engage in more critical thinking, and carry the concepts they learn in their courses into discussions with other students once they leave the classroom. Athletes, on the other hand, are more engaged with the non-academic experiences at the university with an insular focus towards the world of athletics and less time spent communicating with other students inside or outside of class. The two populations appear to be most different in two critical pre-collegiate variables, their collegiate aptitude as measured by their incoming ACT scores and their selection of majors. Ultimately, the level of engagement has little correlation to their academic success. Further more the mere fact that one is an athlete, does not predict positively or negatively, one's academic success.

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CHAPTER I

INTRODUCTION TO THE STUDY

The relationship between intercollegiate athletics and the university has varied throughout history. In the beginning of their relationship, sports were marginalized, with university officials seeing athletics as frivolous and incidental to the purpose of education. By the late 19th and early 20th century, sports had become an accepted part of the university experience by most involved in higher education (Rudolph, 1962; Veysey, 1965). Athletics became associated with one important mission of higher education, the moral development of students. Athletic programs progressed from the edge of the university experience to the core. Throughout the rest of the 20th century the popularity and importance of intercollegiate athletics has continued to grow exponentially at most universities across the country with major milestones including the building of stadiums in 1910s and 1920s, the addition of radio in 1930s and television in the 1950s. The emergent relationship with the national professional sports associations also increased the stakes for all involved in college athletics (Toma, 2003). Although athletics continued to increase in popularity, the connection between athletics and the primary purpose of the university began to stretch. As the need for athletic departments to be more commercial, to become self-supporting, as well as the emotional relationship between alumni and sports, has forced colleges to pull athletics even further from the center of its mission. The result is an environment very different from other departments on campus that have not evolved in the same way.

For instance, few other units on campus connect so emotionally with alumni; draw on the commercialism available to athletic departments (Rudolph, 1962; Sack & Staurowsky, 1998; Shulman & Bowen, 2001; Toma & Cross, 2000); appear so regularly in the media

(Chu, 1989); are so controlled by rules and regulations (Suggs, July 1999); and recruit individual students as heavily as do athletic departments (Bowen & Levin, 2003). These factors, and many more, point to college athletics as having a unique position within colleges' environments. Does this atmosphere translate to a distinctive experience for athletes? Do athletes lead atypical collegiate lives, separated from their non-athlete counterparts or are they integrated in campus life to the same extent as the average undergraduate student at the same school? Do they experience levels of active and collaborative learning equal to non-athletes? Are their relationships with faculty and staff the same? Do they have the same types of educational experiences as other students?

If athletes do have different experiences than other students, do these differences impact their ability to succeed academically? Although student success can be defined in a number of ways, this study examined students' grades as a reflection of how well they perform in their academic studies.

The Problem

This study was designed first to assess the degree of engagement of college athletes at a Division I school versus non-athlete students. Second, since student engagement, particularly that which is tied to academic subjects, has been shown to be related positively to academic success (Pace, 1982; Astin, 1993; and Anaya, 1996), this study examined if a correlation existed between the level of engagement of student athletes and academic success as demonstrated by grade point average. Confounding variables, like race, gender, and pre-collegiate preparation, as exhibited by ACT have also been considered.

This study addressed several groups of research questions. These questions are prompted by factors engagement researchers have found to correlate to student academic

success. The first set of questions was designed to inquire into the level of academic challenge experienced by students. Do athletes take classes with the same academic rigor as non-athletes? How do classes taken by both groups compare in the number of assignments, textbooks, papers, and required study time. Does the work involve analysis, synthesis, the drawing of conclusions and the application of theory?

The second set of questions inquired into the active and collaborative learning that exists in a student's college experience. Do athletes ask questions in class, make presentations, work with students on group projects, work together on community projects outside of the classroom, tutor other students, or discuss class-related subjects outside of class time?

The third set of questions points to the level of interaction between students and faculty. Do athletes discuss grades, their careers or class subject matter with their professors outside of the regular course time? Do they work with professors on research or community based projects? Are the levels the same for athletes and non-athletes?

The fourth cluster of questions deals with whether athletes are as engaged in their college experience as non-athletes. How do athletes compare to non-athletes in their participation of enriching activities like extracurricular activities, practica or internships, community service or volunteerism, and interaction with individuals of diverse backgrounds? Each of these sets of questions was investigated with the 2004 National Survey of Student Engagement and resulted in a composite score that was then tested for a correlation with academic success as exhibited by GPA.

The Purpose

This study and the questions described in the problem section explore an unexamined connection between involvement theory and student-athlete success in Division I athletics. Each of the four benchmarks mentioned provide insight to those factors that appear as detrimental to academic development. Benchmark one, "level of academic challenge" provided needed research in an area difficult to study, the rigor of coursework taken by athletes. The practice of athletes clustering in majors perceived by students to be "easier" appears frequently in the literature but it is unclear in many studies whether the course work is actually less challenging (Adler & Adler, 1985; Bowen & Levin, 2003; Pascarella, Bohr, Mora, & Terenzini, 1995; Sack, 1987). This research established whether classes taken by athletes are as rigorous as those taken by non-athletes.

The second benchmark, "active and collaborative learning" informed research on the kinds of student-to-student relationships experienced by athletes and non-athletes and whether they have the same level of interactions. These relationships have been shown by Pascarella (1985) as well as Astin (1993), Feldman & Newcomb (1969), and Pascarella & Terenzini (1991) to affect student development positively. This research confirmed whether this relationship is as important to academic development in athletes as it is in the general population.

The third benchmark, "student-faculty interaction" adds to the already solid body of knowledge about the importance of student-faculty interactions which indicates that strong relationships with faculty are beneficial to students' academic development. (Chickering & Reisser, 1993; Kuh, Schuh, Whitt, Andreas, Lyons, Strange, Krehbiel, & Mackay., 1991; Pascarella & Terenzini, 1991; Stark & Lattuca, 1993). The extent to which athletes

experience these relationships and the effect that they have on their academic development are an important addition to the literature.

Finally the final benchmark, "enriching educational experiences" addressed the need to understand the affect of a student's involvement in learning-centered extracurricular activities on their academic development. Research by Astin (1993) and Feldman and Newcomb (1969) show this involvement as being significant. This research determined whether athletes experience the same levels of involvement as other students and if these experiences impact their academic development.

Overall this research uncovered the level of engagement of student athletes as it compares to non-athletes and supplements known research about engagement as it impacts athletes' academic development. Finally, it is important to constantly add to the general body of knowledge about athletes in general. Some of the most thorough research on athletics is aging. It is important for institutions to understand how athletes' experiences have changed since this research was conducted. This information further provides athletic administrators with the tools to foster the most positive environment possible. Information about possible reasons for student-athletes academic success is needed to create policies, practices and attitudes to encourage student athlete success.

Limitations and Delimitations

This study has its limits. First, the study was designed to determine if correlations exist between student engagement and academic development; it cannot definitively speak to cause and effect. The small sampling of athletes in this group requires the 2004 survey be administered to all of the 2004-2005 academic year athletes. The original administration of the survey tool to the general population of students was administered to freshman and

seniors only. The small number of athletes available to complete the survey required the researcher to rely on data from sophomores and juniors as well. Small differences exist between the responses of freshmen and seniors but it is the hope that sophomore and junior responses will fall along the spectrum between freshmen and seniors.

Third, the study is limited to undergraduate students because most athletes participate during their undergraduate years. Although students occasionally enroll in graduate school prior to using all of their athletic eligibility, the inclusion of data from graduate students would introduce a variety of factors that would confound the study. Graduate students, as well as graduate work, are quantitatively different than undergraduates and their experiences. Graduate students are older, more likely to be employed off campus while in school and less likely to be involved in campus life (Pascarella & Terenzini, 1991). The fact that they are pursuing an advanced degree implies a greater commitment to academic development than the undergraduate student who may not continue their formal education. As athletic programs are overwhelmingly oriented toward undergraduate students, the data collection was restricted to undergraduate students.

Finally this study is limited to a single university with Division I athletics. NCAA Division I consists of institutions of great variance, both as institutions and as athletic programs. In addition to the differences in selectivity and size of the institution, the athletic programs differ in the sports they offer and their commitment to football. The diversity of institutions within Division I necessarily limits the ability to generalize these results to all Division I institutions but provides results that are helpful to those with similar profiles as the Midwest City University, a Division I-AAA school with basketball teams but no football. Eighty-eight other institutions or 27 percent of all NCAA institutions fall into this category of

Division I (NCAA website, 2004). "Big-Time" football schools make up 36 percent (Division I-A) and another 37 percent have small football programs (Division I-AA). The results of this study are useful to those schools with small or no football programs whose relative size and selectivity is comparable to Midwest City University (National Collegiate Athletic Association website, 2004).

CHAPTER II

LITERATURE REVIEW

A study of this nature requires an understanding of athletic culture and the academic development of athletes. First, this review briefly explains the major characteristics of athletic culture. Second, it examines what is known about the academic development of athletes. The athletic experience may contribute to and enhance the student development or detract from the gains believed to be associated with college attendance. How are these effects moderated by pre-collegiate preparation, student athlete characteristics and program specific? The existing literature in these areas is explored. Before academic development of athletes can be approached, however, athletic culture must be understood.

Culture of NCAA Division I

Most scholarship on intercollegiate athletics describes the most heterogeneous of the three NCAA divisions, Division I. It is subdivided into three categories based on the individual institution's commitment to football. With the exception of schools who maintain substantial basketball and no football, the term, "big time" athletics, refers to Division IA. The characteristics of big-time athletic culture revolve around the key elements of finance, rules and regulations, and authority and power.

Finance. With few exceptions, Division I schools are large public institutions that have at one point or another dealt with the issue of state funding. For the most part, these institutions do not rely on state funding for athletics but instead turn to external constituencies for financial support (Toma & Cross, 2000; Toma, 2003). The influence external constituencies wield has driven much of the development of big-time sports (Shulman & Bowen, 2001). One NCAA vice president stated that Division I athletic

programs serve the basic function of providing opportunities for the institution to affiliate and create ties with external constituencies (NCAA, 2000). These relationships are difficult to create through other university departments. Relationship building, and the money that follows, is therefore a primary goal for the athletic program (Toma, 2003).

Another financial consideration for athletic departments is revenue generation. Institution's decision making about athletic programs frequently comes down to the economic impact the program has on its corresponding institution. Several years ago, the Notre Dame football television contract, for instance, was worth $45 million to that University (Eitzen, 1999). Similarly, CBS signed a multi-year, $215.6 million contract for the television rights to the NCAA men's Division I basketball tournament that same year. In 2005, the College Sports Television (or cstv.com) negotiated with the NCAA and CBS for the streaming video rights for the NCAA Division I mens' basketball tournament for a multi-year contract (NCAA, 2005). Financial considerations extend beyond decisions made by singular institutions. Much of the money in big time athletics is filtered down to NCAA's member institutions through conference affiliation. In 1998, $140 million was paid to the conferences that participated in bowl games (Suggs, August 6, 1999). The NCAA has additionally sold the naming rights for 28 bowl games for the 2005-2006 season (NCAA, 2005). The financial payoff, however, is not just from network deals. A 1998 season ticket to the Nebraska Huskers football games started at $1,000. A suite at a football stadium or basketball arena can bring in as much as $200,000 over a ten year period (Suggs, April 23, 1999). Institutions also gain revenue from corporate sponsorships (of everything from uniforms to arenas and stadiums), franchising university logos and lucrative licensing

agreements. With these kinds of incomes at stake, Division I universities strive for high profile, winning programs to maximize their gains.

However, sports programs and particularly football teams are extremely expensive and very few programs—only 6.2 percent of institutions in all the divisions—make any profit (Eitzen, 1999). The kind of revenues mentioned above is reserved for the most elite programs. The result is a "ratcheting" effect where large (but less competitive) programs aspire to hit big time status where they can recoup some of their losses by increasing their athletic budgets. This phenomenon is what Gary Roberts called the "athletic arms race" (Eitzen) and greatly worried current NCAA president Myles Brand (NCAA, 2005).

Being big, though, does not ensure profit. Although some programs enjoy program profits, others with large sources of revenue have problems balancing their books. A 2005 survey by the National Collegiate Athletic Association showed athletic budgets "grew at a double-digit rate between 2001 and 2003." More and more of the budget was subsidized by university funds and student fee (NCAA, 2005) The University of Wisconsin received $1.1 million from its winning participation at the 1998 Rose Bowl, but spent $1,386,700 taking 832 people to Pasadena for the game (Suggs, November 12, 1999). Michigan, a school enjoying some of the largest revenues described above, still lost 2.8 million on athletics (Shulman & W.G. Bowen, 2001). Of course the accounting of the athletic department books does not show the entire fiscal picture. In addition to the profits or losses of the athletic department, the institution must consider the other benefits or costs to the university such as free publicity, increased enrollment and athletic-related donations. Other hidden costs include the construction and maintenance of athletic facilities, which are frequently paid for by bonds (Suggs, November 12, 1999). The NCAA reported the average Division I schools

spends $9.4 million each year on capital costs. $1.1 million is spent by Division II and $2.3 million is spent by Division III (NCAA, 2005). Like many facilities on campus, athletic buildings have had their maintenance deferred. At the University of Wisconsin, it required at least $59.5 million to bring their facilities to the level needed to ensure competitive play (Suggs, November 12, 1999). One conclusion drawn from this discussion is that both the necessity for universities to connect with external constituencies and the emotional power that sports bring to institutions, can overshadow the need for big time athletics to be fiscally sound.

Authority and power. A confounding variable in understanding athletic culture is the employment norms of the athletic director. Athletic directors across all levels of competition, report directly to the president of the university and are paid by the university. Division I athletic directors, however, may also receive a large part of their salary from an independent athletic foundation or a contract from a shoe company (Toma & Cross, 2000). Thus another constituency demands yet more attention from the athletic program. Shoe companies want to be promoted by teams who win. The pressure to win is increased. This pressure often in turn influences administrative decisions that lead to the creation of a hierarchy within the athletic culture. Although ideally the athletic director treats all teams and all athletes fairly, in reality, financial considerations often drive many decisions (NCAA, 2000). Thus, the most successful and revenue-generating teams may be given weight room privileges at more convenient times than those teams that are not as successful. The football team may fly to a competition while the soccer team rides a bus. Within the allocation of limited resources, a hierarchy emerges that becomes clear to academic personnel and athletes alike. This

hierarchy is further reinforced when external constituencies place further pressure on the athletic director to commit to one priority over another.

Reform. Reform in intercollegiate athletics has been an issue since 1929 when the Carnegie Foundation for the Advancement of Teaching published the first report on the issue (cite?). Since then reform has been mentioned repeatedly as it related to academic issues. In March 1991, the John S. and James L. Knight Foundation issued a report that prompted the NCAA to move the power within the divisions from athletic administrators to the presidents of the university (Knight Foundation, 2005). By the 10th anniversary, the Knight Foundation feared that things hadn't improved much and issues another report entitled, "A Call to Action: Reconnecting College Sports and Higher Education" (Knight Foundation). In January of this year, Division I recommended new policies using an Academic Performance Rate (APR and a Graduation Success Rate (GSR) as indicators. By April discussions had already begun about loosening the APR policies to accommodate athletes that leave college early for a career in professional sports (NCAA, 2005). Reform extends beyond "big time" athletics. In April, the Division III president's council recommended "amending the Division III philosophy statement to specify an expectation that student athletes' academic progress should be, at a minimum, consistent with the general student body (NCAA, 2005). They also considered an examination of the consistency of admission standards between athletes and non-athletes and using "best practices" to encourage the involvement of student-athletes in campus life (NCAA).

Rules and regulations. Financial gain combined with the priority given to a wide range of external constituencies, place pressure on institutions to have successful teams. Some programs resort to or permit the violation of both NCAA regulations and school

policies to ensure this success. Hazing, academic fraud, recruiting violations, and the cover-up of athletes' violations of school regulations and local, state and national laws, are significant problems for institutions (Adler & Adler, 1985; Coakley, 1998; Eitzen, 1999; Sack & Staurowsky, 1999; Sage, 1998; Shulman & Bowen, 2001; Thelin, 1994; Toma & Cross, 2000).

As the stakes increase, so do the number of priorities to be balanced. The attention to winning takes precedent over other goals of the program and in some cases becomes the solitary focus. Consequently, conscientious attention to student development takes a back seat to the other goals of intercollegiate athletics (Adler & Adler, 1985; Coakley, 1998; Eitzen, 1999; Sack & Staurowsky, 1999; Sage, 1998; Shulman & Bowen, 2001; Thelin, 1994; Toma & Cross, 2000). The athletic department appears to emphasize its business enterprises rather than being an extracurricular experience for students. None–the-less, some Division I schools do focus attention on academic achievement, while others struggle to do so (NCAA, 2000). When athletes spend the majority of their time as part of the business enterprise of athletics and a minimal amount on the scholastic experience of college, academic development suffers. Given the pressures to win in Division I, it is easy to see why 45 percent of student athletes in the division feel forced to be an athlete first and a student second (Sack, 1997).

Given the pressure asserted on Division I athletes, particularly in revenue-generating sports, Division I could be the most difficult environment for student athletes to be treated like other "normal" students. Their athletic success has broader implications for the University than does their academic success or the success of most other students of the university. It is not difficult to understand, therefore, how policies and practices have

emerged that direct athletes towards the goals of athletic success rather than a more "balanced" student experience. Whether for these reasons or others, Division I athletes have the largest gaps in academic success compared to their non-athlete counterparts. The specifics of athlete academic development in Division I as well as at other schools are outlined below.

Academic Development

What effect does athletic participation have on academic development? Answering this question requires an understanding and appreciation for the complexity of college development and athletic culture. The literature on academic development of student athletes involves three bodies of work: graduation rates, grades and cognitive development. Conflicting research in these areas is evident and methodological inconsistencies within much of the research further exacerbate the confusion.

Limitations of Research Design. In addition to the literature on Division I athletics there is also research on Division II and Division III athletics. The schools in these divisions have different policies and attract different student athletes than do Division I schools. Therefore, athletic culture in general is complex and heterogeneous, a fact that poses design problems for researchers. The idiosyncrasies of institutions of higher education and sports programs across the country make generalization difficult regardless of the method.

If researchers choose a study of breadth, the basic problem is one of aggregation, across institutions and within them, and between individuals of different race, gender, and socioeconomic status. Research that clusters together institutions like the University of Michigan (NCAA, Division I), Grand Valley State University (NCAA, Division II), and Aquinas College (NAIA)—three institutions in Michigan—might miss significant factors

specific to institutional culture and level of competition. Even when researchers utilize the National Collegiate Athletic Association (NCAA) and the National Association for Intercollegiate Athletics (NAIA) classifications to group schools together, great variance exists within each level of competition and within the cultures of the individual institutions.

Further complicating the researcher's job are the differences between sports at a single institution. Each sport has its own sub-culture that is affected by its history and role as a revenue or non-revenue generating sport. Much of the literature that separated revenue and non-revenue sports, show differences in the two groups' academic development (Bowen & Levin, 2003; Hood, Craig & Ferguson, 1992; Maloney & McCormick, 1993). Bowen and Levin further distinguish athletes as "recruited" or "walk-ons", finding differences in pre-collegiate preparation, grades, and underperformance (the relationship between SAT scores and class rank) between the two groups. The participants within each sport can also vary in race, gender, and socio-economic status, factors that have all been shown to affect student outcomes (Pascarella & Terenzini, 1991).

When comparing athletes to non-athletes, researchers experience another set of problems. Nationally, the pre-college characteristics of athletes are often different from those of the general student body (Snyder, 1996). High school GPA and standardized admissions tests scores for student athletes are frequently lower than those of non-athletes. These differences hold true whether level of competition or school selectivity is inspected (Bowen & Levin, 2003; Hood, Craig & Ferguson, 1992; Siegel, 1994; Stuart, 1985). A strong correlation does exist between college preparedness and success in college (Cross & Koball, 1991; Sedlacek & Adams-Gaston, 1992), although some authors dispute the validity of these standards as predictors of success (Jacobson, 2001). Standardized tests are particularly

suspect in their ability to predict academic achievement for African Americans (Petrie, 1993; Sellers, 1992; and Young & Sowa, 1992). Given the collective socioeconomic and educational disadvantages often experienced by this group, differences in outcomes not surprisingly appear if these characteristics are not statistically or methodologically controlled. Although race is incorporated into the more complete studies on athletics, socioeconomic status is less often considered.

Thus, methodological difficulties have sometimes resulted in an incomplete picture of athletes and their academic outcomes. Current definitions of academic achievement and the data available on athletes' academic success focus on one or more of the following: the rate at which student athletes graduate (used frequently), the grades they receive (used occasionally) and the learning that actually occurs while in college (rarely considered). While this last attribute appears to be the worthiest to know, it is the most elusive data to collect.

Graduation rates. Graduation rates are used frequently in studies on student development in general because they are relatively easy to obtain. The Integrated Postsecondary Education Data System (IPEDS) and the NCAA standardized the collection of graduation data in 1996. Since then, graduation rates for student athletes have been readily available for both research as well as policymaking. Graduation rates, however, can often be misinterpreted if they are not examined in a desegregated manner. The 2003 NCAA Graduation Rate Summary reported the rate of degree completion for the entering freshman class of 1996. Sixty-two percent of Division I freshman athletes at NCAA institutions in 1996 had graduated by 2002 with 52 percent of Division II and 54 percent of Division III freshmen graduating by 2002. This percentage is just slightly higher than that of all freshmen

59 percent for Division I and 45 percent for Division II and slightly lower for Division III with 62 percent of all freshmen graduating by 2002 (NCAA website, 2003). It should be noted that data were only collected for those athletes who received athletically-related scholarships or financial aid, making it a less accurate reflection of Division II and Division III whose have fewer athletes on athletic scholarship.

The numbers for Division I, however, are more complete and might imply that intercollegiate athletics has a minimal effect on the graduation rate of students. When the data are desegregated by race and gender, however, stronger conclusions can be drawn from certain subsets of athletes. African American male athletes are more likely to graduate than their non-athlete African American peers by thirteen percentage points (48 percent vs. 35 percent) while Caucasian male athletes barely edged out the general male student body 59 percent to 57 percent. Caucasian female athletes have the highest rate of graduation, after a relatively small number of Asian American female athletes, with 72 percent completing a degree in six years compared to 64 percent of their Caucasian female counterparts. African American female student athletes show the greatest advantage over their peers (62 percent vs. 46 percent). While persistence to graduation is increased for African American athletes, African American students (athletes and non-athletes) have a much lower graduation rate than Caucasian students. Thirty-five percent of African Americans graduate after six years compared to almost 59 percent of Caucasian students (NCAA website, 2003). Consequently, athletes as an aggregate graduate less frequently than the general collegiate student population because of the disproportionate number of African Americans in athletic programs. Nationally, African Americans compose 10.4 percent of the student population, a large portion of which is concentrated in historically black colleges and universities

(Chronicle of Higher Education Almanac, 1999-2000). In contrast, over 50 percent of Division I football and basketball athletes are African American (Lapchick, 1987). Therefore, the generally poorer graduation rates of African Americans are positively modified by athletic participation, but not enough to compensate for the disproportionality of African Americans in sport (Siegel, 1994).

Why are higher graduation rates linked to athletic participation? Is there something inherent in sport that promotes academic commitment? One factor could be motivation. Athletic participation has been positively correlated with students' motivation to finish their degrees (Pascarella & Smart, 1991; Ryan, 1989). Persistence, as defined in these studies, however, may have more to do with four characteristics of student athletes than athletic participation itself. First, student athletes are required to attend college full-time. The general student body, however, consists of 33.7 percent part-time students (Chronicle of Higher Education Almanac, 1999-2000). Part-time students are less likely to persist to graduation (Astin, 1993), thus graduation rates are skewed in favor of athletes. Second, athletes are more likely to be of traditional age while 39.2 percent of students enrolled in 1997 were over the age of 25 (Chronicle of Higher Education, 1999-2000). Athletes reside on campus in larger numbers than the general population because of the previous two characteristics. On-campus residency increases persistence according to Astin. Finally, financial hardship, one reason that some students leave school, is more likely to affect the general student body than athletes, the majority of whom (in Division I and II) receive full or partial scholarships. Although some athletes must stay in college beyond the term of their scholarships, the NCAA Foundation annually awards over $950,000 to assist athletes in the

completion of their degrees (NCAA website, 2000). Athletes from lower socio economic can also make use of federal assistance when their athletic eligibility is over.

Grades. Graduation rates are not the only indicator used to measure academic success. Grades have also been used to determine if athletes are developing academically. It is possible that athletes graduate at higher rates than non-athletes but with less success in their individual courses, making GPA an important measurement to monitor.

Hood, Craig, and Ferguson (1992) studied 2000 athletes and non-athletes, matched for backgrounds and abilities, at a Division I school. Football players received significantly lower grades than did non-athletes with similar academic preparation. Yet, two other studies found no differences between athletes, including football players and non-athletes. In one case, although athletes entered a large Midwestern state university with lower academic preparation, no significant difference in the mean GPA existed between athletes and non-athletes for the first two years of college (Stuart, 1985). This study statistically controlled many of the most important variables ignored by other researchers, but was conducted on a cohort of athletes from 1977-1980. The question should be asked if this group of students represents today's student athletes or has the athletic culture changed enough to alter student outcomes over the past 20 years. A more recent study by Richards and Aries (1999) found athlete and non-athlete seniors to have similar grade point averages at a Division III college, however, football players spent less time in class than other athletes and non-athletes alike.

Maloney and McCormick (1993) presented the most comprehensive research on athletes and their grades. They analyzed all of the undergraduate student grades at Clemson University, a Division I school of 12,000 students. Controlling for pre-collegiate characteristics, institutional profile, ease of course, and student course load, they found

significantly lower grades for football and basketball players that could not be accounted for by their pre-collegiate variables. Lower grades were earned despite the fact that these athletes took easier classes as determined by the average grade per class by all students. These results imply that the negative effects of football and basketball participation are moderated somewhat by course selection. Further, poor grades among football and basketball players have been statistically linked to the season during which the athletes compete and practice. "Football players receive a letter grade lower than [equally prepared] non-athletes in approximately half of their courses during the semester of participation" (Maloney & McCormick, 1993, p. 566). In this study and the Hood, Craig, and Ferguson (1992) study, no significant difference was found between non-athletes and those athletes in non-revenue generating sports. Bowen and Levin (2003), studied Ivy League schools and select schools in Division I and argue that recruited athletes across all sports are more likely to "under perform" than non-athletes and walk-on athletes. An athletes' performance was derived from an analysis of their grades, as shown by class rank, in relation to their SAT scores. After controlling for race and field of study, recruited athletes were ranked 25.8 percentile points lower than a comparable non-athlete with the same SAT.

A factor that modifies both graduation rates and grades is a students' course load. Students across all NCAA divisions, reportedly take fewer credits than non-athletes (Sack, 1987). In Division I, where teams compete in a national limelight, half the students select fewer credit hours whereas the proportion is less in Division II (41 percent) and Division III (29 percent) (NCAA, 2004). However the low proportion of students with fewer hours in Division III may be related to individual institution. In localized research, Stuart (1985) found no evidence of lighter loads at a Division III college.

With the exception of the Brown and Levin study, four other studies on athletes' grades were conducted at individual institutions and produced different results, suggesting that the type of institution may be an issue. Bowen and Levin studied schools belonging to the Ivy League, University Athletic Association, the New England Small College Athletic Conference, and a cohort of women's colleges. Although they found consistency across schools within each group, the results varied greatly between conferences. The environments created by the institutions in each of these conferences for athletic subgroups may be instrumental in the athletes' ability to succeed, the implication being that some athletic programs or institutions may be more academically supportive than others. This premise is supported by the fact that twice as many Division I athletes compared to athletes from less competitive levels thought that sports participation was affecting their college work (Curry, 1991).

Actual learning. The third measurement of academic achievement examines actual learning and is the most difficult to assess. Students can receive good grades and graduate, yet fail to learn or develop cognitively. Even though the stereotype of the "dumb jock" that enrolls in courses like "underwater basket weaving" is an exaggeration in the extreme, athletes do choose less rigorous academic majors (Adler & Adler, 1985). Despite high personal expectations of academic success, only a quarter of male basketball players at a medium-sized private institution who had originally been enrolled in pre-professional programs, continued with these majors through graduation. The remaining athletes chose more "manageable" majors. Likewise, 39 percent of male and 20 percent of female Division I student athletes felt that the demands of participation in competitive sports had forced them

to take "less demanding majors" (Sack, 1987). With less demanding majors, the enrollment in less demanding courses can be inferred.

Athletes also appear to "cluster" in the easier majors, a phenomenon in which at least 25 percent of a team enrolls in a major that is otherwise selected by only 5 percent of the general student body (Bowen & Levin, 2003; Pascarella et al, 1995; Sack, 1987). This implies that athletes can become isolated from the individuals in the general student population at least in their coursework. With large numbers of athletes pursuing the same academic major, comes less interaction with a more diverse set of individuals. Clustering more likely occurs in majors where the professors are sympathetic to the athletes' schedules and less rigorous in their demands. Both of these issues are discussed later.

Using a national database of freshman, Pascarella, Bohr, Nora, and Terenzini (1995) statistically controlled college aptitude, motivation, age, ethnicity, place of residence, social origin, course load, school reputation, and NCAA divisional status to determine the cognitive impact of athletics on students. Disaggregating by sport and gender they found that football and male basketball players actually regressed on standardized reading and math tests after their freshman year. This regression comes at a point in college when students, in general, are making their greatest cognitive gains (Pascarella & Terenzini, 1991). One possible explanation is that football and basketball players enroll in more applied and professional majors that do not emphasize reading and math cognition. Female athletes and male athletes in non-revenue sports had smaller positive cognitive gains than did non-athletes but did not regress like the football and male basketball players. Although the previous research involving academic achievement of football and basketball players indicates that the type of institution plays a major role in the success of the student, this study shows learning being

affected across all types of colleges and universities. The composite of these findings implies that something inherent in the culture of the sport—as opposed to the institution—may inhibit academic development.

Overall, research indicates some variance in the effect of athletic participation on students' academic development. While participation does increase persistence to a degree for almost all groups, some student athletes struggle with other aspects of academic success. Particularly at Division I programs, grades are somewhat lower. The most critical concern, however, is for male athletes who compete in football and basketball. These two groups graduate the fewest number of students because of the lower preparation levels of those who participate. Consequently they have poorer grades than other athletes and non-athletes, choose easier majors, and show a regression in their cognitive development. As can be seen a number of factors relate to academic development of athletes, level of competition, team sport, academic background, gender and race all impact this development.

From the literature on athletic culture and student development of athletes, one can see that the academic development of student athletes is different than that of the non-athlete. Furthermore, the type of institution and athletic program play into athletes' student development. Few, if any, of these studies draw a correlation o the involvement or engagement of the student athlete with their campus environment. This study was designed to further the knowledge of student athletics by specifically examining how engaged athletes are at an urban Division I and if this engagement is linked to their academic success.

CHAPTER III

RESEARCH METHODOLOGY

The literature on the academic development of the student-athlete has provided some insight into the experience of those participating in intercollegiate athletics. To be sure, the picture is incomplete. This study contributes to what is known about student-athletes' academic development by connecting student athlete success to concepts of student engagement and quantitatively examining two questions. Are student athletes engaged in their college environment the same way as non-athletes? Do student athletes' levels of commitment correlate with their student success as evidenced by GPA? The conceptual framework for this study is found in student development literature, a large body of which points to the premise that student achievement can be linked to the extent to which students become involved with their collegiate environment. Astin (1993) and Pace (1987) suggest that the more invested a student is in the learning process and the activities of his or her campus more successful he or she is in persisting to graduation. Studies by Pace, Astin, and Anaya (1996) suggest that student learning is enhanced by the quality of one's efforts at college-related activities. An ever-growing body of knowledge, likewise, has broken down these college-related activities and studied their individual correlation to student achievement. Each of these issues was addressed in the literature review on athletics but needs further examining. Correlations have been found between a lack of rigor of academic study and college athletics (Pascarella & Terenzini, 1991). For instance, Maloney and McCormick (1993) found football players at a Division I school of 12,000 to have taken easier courses than other athletes and non-athletes. With whom a student associates has a large impact on academic success (Chickering & Reisser, 1993; Feldman & Newcomb, 1969;

Kuh et al., 1991; Whitt, Nora, Edison, Pascarella & Terenzini, 1991 & 1999; Stark & Lattuca, 1993).

There is also research about the relationships that athletes have with other students. Although this could be considered an issue of social development, interactions between students are considered in engagement theory and are one element of active and collaborative learning (Chickering & Gamson, 1987; Kuh et al., 1991). Socially, athletes may develop strong relationships with other athletes yet lack the skills necessary to relate with a more diverse set of individuals. The large amount of time spent involved in the participation of athletics contributes to some isolation. Clustering further reduces the variety of individuals in the students' classes. What little remaining time for social engagement is also spent with other athletes. Football players at a Division III college were more likely to pick athletes as their friends than non-athletes (Richards & Aries, 1999). Division I Black male athletes were even less likely to choose a non-athlete or a studious person as their roommate than White athletes (Snyder, 1996).

Another crucial relationship linked with growth in college is that of the relationship of the student with the faculty. The more interaction these groups have, in and outside of the classroom, the greater the development (Pascarella & Terenzini, 1991). Some athletic programs reduce the communication between the students and faculty by offering in-house advising and taking care of some of the responsibilities traditionally assigned to students, for example scheduling a make-up exam. The variety of faculty is also limited by the enrollment of athletes in courses that are less rigorous and more oriented towards their athletic participation (Maloney & McCormick, 1993). Although, mainstream faculty who are sport enthusiasts might have increased interplay with the student athlete as a result of their

athletic participation, these exchanges are more likely to focus on the student as "athlete" than on their psycho-social development. In at least one study, the isolation of athletes from faculty does not appear to be as great for women, since women more frequently seek the advice of personnel outside of the athletic department (Meyer, 1990).

Finally, the activities in which one is involved impacts academic development (Astin, 1993; Bliming, 1989; Feldman & Newcomb, 1969; Pascarella & Terenzini, 1991; Pugh & Chamberlin, 1976). Athletic participation is very time consuming and may reduce the number of number of activities in which an athlete can participate.

Research Questions

Three sets of research questions comprise this study: 1) the degree to which student athletes are engaged compared to the general population; 2) the success of athletes versus non-athletes in GPA; and 3) the correlation of student engagement to academic development. The degree of student engagement is determined by measuring the level of academic challenge, active and collaborative learning, student interactions with faculty members, and enriching educational experiences. These factors compose four of five benchmarks from the National Survey of Student Engagement (NSSE). The fifth benchmark of this survey addresses each individual institution's ability to support the engagement mentioned above. It does not provide information about the students' engagement itself but rather is used as a tool by the institution to improve its practice. Thus, the fifth benchmark is not related to the research questions in this study and was not used. The benchmarks mentioned above inform the three sets of questions that draw comparisons between athletes and their non-athlete counterparts to determine if students are equally engaged, succeed equally and if this engagement equally correlates to athletes' and non-athletes' academic development.

Set I: Level of student engagement.

Hypothesis I-1 – No significant difference exists between athletes and non-athletes in their levels of academic challenge.

Hypothesis I-2 – No significant difference exists between athletes and non-athletes in their levels of active and collaborative learning.

Hypothesis I-3 – No significant difference exists between athletes and non-athletes in the levels of their interaction with faculty members.

Hypothesis I-4 – No significant difference exists between athletes and non-athletes in the levels of enriching educational experiences in which they participate.

Set II – Academic Development

Hypothesis II – No significant difference exists between athletes and non-athletes in GPA

Set III – Correlation of student engagement to academic development.

Hypothesis III-1 – No significant difference exists between athletes and non-athletes in the correlation between GPA and their levels of academic challenge.

Hypothesis III-2 – No significant difference exists between athletes and non-athletes in the correlation between GPA and their levels of active and collaborative learning.

Hypothesis III-3 - No significant difference exists between athletes and non-athletes in the correlation between GPA and the levels of their interaction with faculty members.

Hypothesis III-4 – No significant difference exists between athletes and non-athletes in the correlation between GPA and the levels of enriching educational experiences in which they participate.

Research Design

This study is quantitative in nature and uses a single institution's students for data collection. Data includes the data set of 771 responses from freshmen and seniors at Midwest City University for the 2004 National Survey of Student Engagement as well as a new data set resulting from the administration of the NSSE 2004 survey to 101 student-athletes enrolled during 2004-2005. Student GPAs were also acquired for all athletes and non-athletes from the Registrar's Office for the study. ACT scores were acquired for 77 student-athletes. The remaining 24 athletes did not have ACT scores in their records, possibly because they transferred from another institution.

Subject institution and access. The institution selected for this study was a Division I, Research II institution in the Midwest. Midwest City University (MCU) has a student population of approximately 14,000 with over 6,000 undergraduate students. The athletic department sponsors 12 teams that involve approximately 164 student athletes. Like many Division I schools, this institution does not have a football team but uses basketball as its marquee sport. In this way, MCU is similar to 27% of Division I institutions.

Prior to any research, permission to conduct the study was gained from the President of the institution, through a letter summarizing the proposal (see Appendix A). Permission from the Institutional Research Board at The College of William and Mary as well as from the IRB at MCU was also obtained (see Appendix B). MCU's permission was required to protect its students as human subjects. MCU was assured that no published report of the study will contain the name of the institution and all student data will remain anonymous. Once the permissions were obtained, additional assistance was sought from the Office of Institutional Research, the official collector and repository of the NSSE data for MCU. The

Office of Institutional Research worked with the Registrar's Office to add GPA and ACT scores to the data. The GPAs and ACT scores were then merged with the NSSE file. The data set was delivered in an Excel file. Written permission was also obtained from the Center for Postsecondary Research Policy and Planning at Indiana University to administer additional copies of the 2004 NSSE survey to the student athletes (see Appendix C). One hundred eighty hard copies of the 2004 survey were provided by the University of Indiana. The Athletic Department was approached to determine the best time and place to meet with the student athletes to collect the data (see Appendix D and E).

Student athletes were asked through a letter to participate in the study as well as to release their academic information (see appendix F). All students were assured anonymity in the use of their student information with a release form (see appendix G). Students were informed that their responses would be presented only in the aggregate and that they had the right to refrain from participation without discrimination and to withdrawal at any time without penalty. The administration of the survey to student athletes was conducted in group settings convenient to the athletes such as team meetings or at the beginning of practices. A few student-athletes completed their surveys during study hall. Athletes not wishing to complete the survey were given a crossword puzzle option so they did not feel awkward doing nothing while others filled out the survey. Some students chose not to participate and some were absent from meetings and practices when the data was collected. One hundred one students from eight teams completed the surveys.

Data instrument. The National Survey of Student Engagement or NSSE (see appendix G) is a product of the Center for Postsecondary Research, Policy, and Planning at Indiana University, which has been collecting information on an annual basis since 2000.

NSSE contains 45 questions with over 85 content items, most of which are measurements of student engagement with several items address demographic issues as well. The survey utilizes a five-point Likert scale, ranging from "very often", "often", "sometimes" and "never" for five of the questions containing 49 of the content items. Other questions ask the student to quantify the number of times they were engaged in certain types of activity. All questions have multiple choice answers with the exception of two demographic questions related to major.

To date, the NSSE survey, which evolves each year, has been used by 731 different colleges and universities. Midwest City University collected information from 771 freshmen and seniors in the spring semester of 2004. The number of reported respondents was selected by NSSE and was weighted by the size of the overall institution. This allowed NSSE to keep its aggregate data representative of the entire student population represented by the member schools.

From the submitted 771 responses, NSSE reported composite scores for Midwest City University students for each of the four benchmarks examined in this study. For level of academic challenge, MCU's students had composite scores in the 53rd percentile (first-year students) and 54.2nd percentile (seniors). This composite score was compared to the 53.6th percentile and the 57.6th percentile respectively for students nation-wide. MCU's scores, however, are very similar to other urban universities and just slightly lower than other doctoral institutions. For the measurement of active and collaborative learning, MCU students scored in the 41.4th percentile (first-year) and the 45.7th percentile (senior) compared to national scores of the 42.3rd percentile and the 51.4th percentile respectively. In this category, MCU first-time students were slightly more engaged than other urban

university students and less engaged in the case of seniors at other doctoral institutions. First-year freshman were on par with the national average for composite score measuring student-faculty interaction with a score of the 32.1st percentile. Seniors, however, lagged behind the national average with only the 37.7th percentile compared to the 44th percentile national score. MCU scores were higher than other urban schools but lower again than seniors at other doctoral institutions. Finally, first-year students' composite score for enriching educational experienced at the 28.5th percentile compared to a the 26.7th percentile for the national average, the 23.9th percentile for the urban institution average and 25.7th percent doctoral institution average. Seniors scored a 36.3rd percentile compared to the 40th percentile (national), the 32.7th percentile (urban institution) and the 37.4th percentile (doctoral institutions) (Institutional Benchmark Report, National Survey of Student Engagement, 2004).

Needing to manipulate the disaggregated raw data, I worked with the institution's complete data set of 771 rather than the data summary provided by NSSE in its 2004 Institutional Benchmark Report. Within the data set, 39 identified themselves as athletes. These students were eliminated from the data set that I employed to avoid duplication. Another 242 students did not have reported ACT scores and were also excluded. Finally 12 students did not have GPA's and were also removed. Four hundred and seventy-eight (478) sets of responses comprised the data set for this study. From that data set a random sample of 149 students was selected for comparison.

NSSE examines five benchmarks derived from *The Seven Principles of Good Practice in Undergraduate Education* by Chickering and Gamson (1987) viewing good practice as: 1) encouraging student-faculty contact, 2) encouraging cooperation among

students, 3) encouraging active learning, 4) giving prompt feedback, 5) emphasizing time on task, 6) communicating high expectations, and 7) respecting diverse talents and ways of learning. The questions on the survey are directly linked to these practices and are divided to create composite scores for five benchmarks. These include 1) level of academic challenge; 2) active and collaborative learning; 3) student-faculty interactions; 4) enriching educational experiences; and 5) supportive campus environment.

This study focused on benchmarks one through four because they deal directly with the experiences of students. Benchmark five inquires about the performance of the institution in providing an environment that fosters the seven principles of good practice and does not inform either of the two sets of research questions. Benchmark one, "level of academic challenge examines the rigor of students' courses by questioning the number of assignments, papers, textbooks and the level of inquiring that takes place in the course. Do students merely learn theories and facts or are they engaged in the analysis synthesis and organization of concepts? The benchmark also gathers data about student judgment and applications of concepts covered during a class.

Benchmark two, "active and collaborative learning," specifically asks about a student's interaction with other students through class presentations, group projects, out-of-class collaboration, tutoring and community-based service. Benchmark three, "student faculty interaction," deals with a student's conversations with a teacher about grades, career plans, coursework, research projects as well as interaction with a teacher outside of the context of coursework. Benchmark four, "enriching educational experiences," surveys a student's involvement in co-curricular activities, internships, volunteer work, self-directed study, ethnically and culturally diverse activities and use of electronic technology to complete

an assignment. Because the NSSE survey deals with all of the elements discussed in the engagement theory literature, it is a particularly useful tool for this study. It looks at a variety of types of engagement and groups them into benchmarks which can be manipulated for analysis. It asks students about their classes, their relationships with other teachers and students, how they spent their time and how they feel about their institution. Not all questions on the survey were relevant to this study. A complete set of questions considered in each benchmark score is included in Appendix I.

Data collection.

I administered the survey to student athletes in group settings convenient to the athletes such as team meetings or the beginning of practices. In all but one case, the meeting was previously scheduled. Athletic department officials and team management left the area when I conducted the survey so athletes would not feel pressure to participate. Athletes not wishing to complete the survey were given a crossword puzzle option so they did not feel awkward doing nothing while others filled out the survey. One hundred one athletes completed the survey while 63 athletes either abstained from the survey or were not present at the meeting where the survey was administered.

Data analysis

Data for the non-athletes and athletes were obtained in separate but parallel Excel spreadsheets. Each file was then loaded into SPSS for analysis. Each group was independently run through SPSS for outliers and non-athletes without GPA or ACT scores were removed. From the remaining non-athletes, a computer generated random sample of 149 students was selected to make the two groups comparable in size. A reliability test for each benchmark for each group was then run to verify that all questions' responses

adequately informed the benchmark. T-tests for independent samples were conducted for grade point average and each of the benchmark scores and a Pearson correlation was conducted for each cluster with GPA for both groups to check for significance. A regression analysis controlling for certain variables was performed with each of the groups separately to determine the weight of each benchmarks correlation on grade point average. Further regression analyses were preformed on items within each benchmark to determine if detailed items from each area were important. Finally a regression factoring for whether the student was an athlete was performed to see if this variable was significant once all other factors were considered.

Conclusion

Random sample of non-athletes results collected in 2004 and the new results from student-athletes collected in 2005, I was able to determine if a significant difference was evident between the experiences of athletes and non-athletes. The results are presented in chapter four and add to what is known about student athletes and their level of engagement during their college years. Finally the inclusion of academic record information in the study contributes to the understanding of the correlation of student engagement and academic development for both athletes and non-athletes. The correlations of grade point average and ACT will provide a clearer picture of how these two populations differ.

CHAPTER IV

DATA ANALYSIS

The purpose of this study was to detect a possible difference between athletes and non-athletes at a Division I urban institution with regard to their levels of student engagement and its effect on their academic development as demonstrated by their GPA. The NSSE survey used for this study was specifically chosen because of its focus on four benchmarks: level of academic challenge, active and collaborative learning, student-faculty interaction, and enriching educational experiences.

Sample Demographics

One hundred one athletes from nine teams completed the 2004 NSSE survey and constituted one of the two groups. The comparison group of non-athletes consisted of 149 randomly selected students from the institution's pool of 770 responses given last spring. The two groups were similar in some demographics and different in others. The average age of the student athletes was 20.62 with 20.59 being the average age for non-athletes (see table 4.1). The non-athletes were comprised of a larger percentage of females (63.3 percent) compared with 55.4 percent female for the athlete sample. This probably reflects the fact that Metropolitan City University's undergraduate student population is 59 percent female while the entire student athlete population is only 46 percent female. The racial composition of the athletes and non-athletes vary in some ethnicities but are similar in African American composition with 14.9 percent and 14.7 percent respectively. The Caucasian population is larger in the athlete population (74.3 percent and 63.3 percent), in part because the Asian/Asian American population is smaller than in the non-athlete population (10.7 percent and 1 percent). The athlete population also has a greater percentage of students identifying

themselves as American Indians with 3 percent versus less than 1 percent for the non-athlete sample. Table 4.1 indicates the distributions by gender and race for each group.

Table 4.1
Sex and Race of the Two Samples

	Athletes		Non-Athletes	
	N	percent	N	percent
		Sex		
Female	56	55.4	95	63.3
Male	45	44.6	54	36.0
		Race		
African American	15	14.9	22	14.7
Caucasian	75	74.3	95	63.3
Asian American	1	1	16	10.7
Hispanic American	7	6.9	12	8
Native American	3	3	1	0.7
Unreported	0	0	2	1.3

Data for both the athletes and non-athletes were entered into SPSS and a reliability rating was run on all of the items in each benchmark area with the reliability ratings being fairly similar for athlete's and non-athlete's responses. A Cronbach's Alpha score was generated based on standardized items as some of the questions had four options and some had five or eight. Although some of the α scores fall below the ideal .700 cut off, none of

them would have increased significantly if any of the specific items were removed from the category. The scores are indicated below in table 4.21.

Table 4.21
Reliability Ratings:

	Athletes	Non-Athletes	Both
	A	A	α
Benchmark 1 Items - Academic Challenge	.722	.743	.733
Benchmark 2 Items - Active & Collaborative Learning	.662	.605	.624
Benchmark 3 Items - Faculty Interaction	.656	.691	.677
Benchmark 4 Items - Enriching Experiences	.644	.656	.629

Note. Cronbach's alpha based on standardized items

Outcomes for Hypotheses

The data were then examined to prove the hypotheses that dealt with the levels of engagement, the academic success and the correlations of the two.

Levels of academic challenge. Hypothesis I-1 stated there would be no significant difference between athletes and non-athletes in their level of academic challenge. This null hypothesis was rejected. The mean for Benchmark 1 for student athletes was 50.39 compared to a 54.40 mean for non-athletes. An independent samples t-test was run on the two means to determine significance. With a two-tailed p=.023 (t=2.281, SE = 1.75476), these benchmark means have a significant difference at the $p < .05$ level. The means for this Benchmark and the other four are detailed in table 4.22 below.

Table 4.22
Benchmark Means and T-test for Equality of Means

	Athletes n=101	Non-Athlete n=149	t-test for Equality of Means				
						95% confidence interval of the difference	
	M	*M*	*t*	*p*	*SE*		
Benchmark 1 - Academic Challenge	50.39	54.40	2.281	.023*	1.75476	.54668	7.45909
Benchmark 2 - Active & Collaborative Learning	42.40	43.62	.583	.560	2.12367	-2.94423	5.4212
Benchmark 3 - Faculty Interaction	35.37	34.22	-.515	.607	2.21430	-5.50158	3.22088
Benchmark 4 - Enriching Experiences	33.33	32.50	-.432	.674	1.95886	-4.68211	3.03412

Note. No significant differences with the Levene's test for equality of variance so equal variances are assumed.
*$p < .05$.

A deeper analysis of each item in the benchmark reveals that athletes seem to take courses that are less demanding than non-athletes. Athletes had significantly lower means at the $p < .05$ level in the frequency with which their classes required them to synthesize and organize information as well as the making of judgments about the value of information, arguments or methods. The mean for athletes for the synthesis of ideas was 2.72 while non-athletes had a mean of 2.99 on a four point scale ($t = 2.326$, $p = .021$, $SE = .115$). The construct making of judgments about the value of information was similarly lower for athletes ($M = 2.77$) than non-athletes ($M = 3.01$, $t = 2.072$, $p = .039$, $SE = .115$). Athletes also had significantly lower means at the $p < .05$ level for the number of assigned text books, and the number of reports written between 5 – 19 pages. Conversely, athletes were more likely to write reports of 20 pages or more with a mean of 1.43 versus 1.25 for non-athletes ($t = -2.070$, $p = .039$, $SE = .090$). The strongest differences in academic challenge between the two groups fell in the number of hours spent preparing for class and the perception that the

institution emphasizes that students (or student-athletes) spend significant amounts of time on academic work. The first issue is addressed with a question asking students to indicate the number of hours spent studying student-athletes had eight choices. A choice with the value of three indicates 6-10 hours of work and a selection of four means 11–15 hours of work. Student athletes had a mean of 3.21 and non-athletes had a mean of 4.14. Thus, non-athletes spend two to three times more on academics than athletes. This is a significance of $p < .001$ ($t = 4.325$, $SE = .215$). The second significant difference mentioned above refers to how, on a four point scale, student rated their institution's emphasis on spending time on academics. Athletes had a mean of 2.96 while non-athletes had a mean of 3.21. These data are significant at the $p < .01$ level ($t = 2.675$, $p = .008$, $SE = .095$). Therefore, student athletes are not only spending less time preparing for class but think the institution does not emphasize that they do. Four other items in this benchmark showed no significant differences between the two groups. The statistics on all of the items are listed below in table 4.23. All of these factors and their correlations to academic success will be discussed later in this chapter.

Table 4.23
Academic Challenge Item Means and T-test for Equality of Means

	Athletes		Non-Athletes		t-test for Equality of Means		
	n	*M*	n	*M*	*t*	*P*	*SE*
Working harder than you thought you could to meet an instructor's standards or expectations.	101	2.57	149	2.63	.566	.572	.100
Analyzing the basic elements of an idea, experience or theory, and considering its components.	100	2.99	148	3.20	1.923	.056	.107
Synthesizing and organizing ideas, information, or experiences.	100	2.72	149	2.99	2.326	.021*	.115
Making judgments about the value of information, arguments, or methods	99	2.77	149	3.01	2.072	.039*	.115
Applying theories or concepts to practical problems or in new situations.	100	3.09	149	3.15	.574	.566	.112
Number of assigned textbooks, or book length packs of course readings.	99	3.07	149	3.34	2.044	.042*	.130
Number of written papers or reports 20 pages of more.	99	1.43	149	1.25	-2.070	.039*	.090
Number of written papers or reports between 5 – 19 pages.	99	2.56	149	2.28	-2.307	.022*	.122
Number of written papers or reports less than 5 pages.	99	3.03	149	3.04	.071	.944	.141
Hours per 7-day week spent preparing for class	100	3.21	149	4.14	4.325	<.001**	.215
Institution encourages spending significant amounts of time studying and on academic work.	101	2.96	149	3.21	2.675	.008**	.095

Note. No significant differences with the Levine's test for equality of variance so equal variances are assumed.
*$p < .05$, **$p < .01$.

Levels of active and collaborative learning. Hypothesis I-2 predicted no significant difference between athletes and non-athletes in the levels of active and collaborative learning. The data failed to reject this hypothesis after an independent sample t-test was performed. The mean for non-athletes fell at 43.62, only slightly higher that the mean for student-athletes ($M = 42.40, p = .560, SE = 2.12367$). A t-test of each of the items within the benchmark revealed no significant difference in means of both groups reflecting their contributions made to class discussions, the number of class presentations made, the working on class projects with other students either inside or outside of class or whether the student was a tutor or not. However, surprisingly, a significant difference was found between the two groups at the $p < .05$ level in the likelihood of participating in a community-based project as part of a course. As busy with their sports participation as they might be, student-athletes were more likely to have had a service learning experience ($M = 1.91$) than non-athletes ($M = 1.65, t = -2.256, p = .025, SE = .115$). Yet, student-athletes were significantly less likely than non-athletes to discuss ideas from readings or classes with others outside of class at significance of $p < .01$. Student-athletes had a mean of 2.35 while non-athletes had a mean 2.74 ($t = 3.422, p = .001, SE = .144$). The complete set of statistics on these benchmark items are in table 4.24.

Table 4.24
Active and Collaborative Learning Item Means and T-test for Equality of Means

	Athletes		Non-Athletes		t-test for Equality of Means		
	n	*M*	N	*M*	*t*	*P*	*SE*
Asked questions in class or contributed to class discussions.	101	2.62	149	2.77	1.319	.188	.112
Made a class presentation.	101	2.31	149	2.36	.484	.629	.101
Worked with other students on projects during class.	101	2.57	149	2.43	-1.286	.200	.113
Worked with classmates outside of class to prepare class assignments.	101	2.43	149	2.36	-.581	.562	.109
Tutored or taught other students (paid or voluntary).	101	1.71	149	1.85	1.172	.242	.119
Participated in a community-based project as part of a regular course.	101	1.91	149	1.65	-2.256	.025*	.115
Discussed ideas from your readings or classes with others outside of class.	101	2.35	149	2.74	3.422	.001**	.114

Note. No significant differences with the Levine's test for equality of variance so equal variances are assumed. *$p < .05$, **$p < .01$.

Levels of student-faculty interaction. Hypothesis I-3, similar to that dealing with active and collaborative learning was correct with no significance in the independent samples t-test of means for faculty interaction between athletes ($M = 35.37$) and non-athletes ($M = 34.22$, $t = 2.21430$, $p = .607$, $SE = 2.21430$). An analysis of this set of items showed only one significant different at the $p < .05$ level. For the question on discussing grades or assignments with an instructor, athletes had a mean of 2.85 while non-athletes had a lower mean of 2.62 ($t = -2.132$, $p = .034$, $SE = .110$). All other items for benchmark three showed no significant relationship. These items included discussing career plans or ideas from class with a faculty member or advisor, receiving prompt feedback from a faculty member or

working on non-academic activities or research with a faculty member. The full complement of statistics on benchmark three items is shown below in table 4.25 and further discussion is provided in chapter five.

Table 4.25
Student-Faculty Interaction Item Means and T-test for Equality of Means

	Athletes		Non-Athletes		t-test for Equality of Means		
	n	*M*	n	*M*	*t*	*P*	*SE*
Discussed grades or assignments with an instructor.	101	2.85	149	2.62	-2.132	.034*	.110
Talked about career plans with a faculty member or advisor.	101	2.30	149	2.21	-.781	.435	.114
Discussed ideas from your readings or classes with faculty members outside of class.	101	1.85	149	1.81	-.445	.657	.104
Received prompt feedback from faculty on your academic performance.	101	2.63	149	2.68	-.414	.679	.107
Worked with faculty members on activities other than coursework.	101	1.55	149	1.55	-.040	.968	.103
Worked on a research project with a faculty member outside of course of program requirements.	101	2.12	149	2.12	.188	.851	.116

Note. No significant differences with the Levine's test for equality of variance so equal variances are assumed.
*$p < .05$, **$p < .01$.

Levels of enriching educational experiences. Finally Hypothesis I-4 was a null hypothesis predicting no significant difference between athletes and non-athletes in the benchmark score for enriching educational experiences. This null hypothesis was not rejected by the independent samples t-test. Athletes had a mean score of 33.33 while non-

athletes were slightly lower with a mean of 32.50 ($t = 1.95886$, $p = .674$, $SE = 1.95886$). The complete set of statistics is indicated in table 4.21. An analysis within the benchmark items, however, shows three significant differences within the area of enriching educational experiences. At a significance of $p < .01$, a difference existed in whether students had serious conversations with students of a different race or ethnicity, in the number of hours spent in co-curricular activities and in the students' perceptions of the institution's emphasis on encouraging contact among students from different economic, social, and racial or ethnic backgrounds. Student athletes were less likely to have a conversation with students of a different race or ethnicity ($M = 2.53$) than non-athletes ($M = 2.93$, $t = 3.205$, $p = .002$, $SE = .124$) and similarly less likely to think their institution encourages such contact with a mean of 2.38 versus 2.612 for non-athletes ($t = 2.612$, $p = .010$, $SE = .129$). Student athletes were much more likely to spend considerable hours engaged in co-curricular activities. Student-athletes had a mean of 5.38 while non-athletes had a mean of 1.72 ($t = -16.613$, $p < .001$, $SE = .002$). This question on the survey had eight options. A choice of one indicated zero hours and a choice of two indicated 1 – 5 hours. The average non-athlete, therefore, spends 0 – 5 hours in extracurricular activities. A selection of five indicates 16 – 20 hours while a choice of six equals 21 – 25 hours spent. Thus, with an average of 5.38, athletes spend between 16 - 25 hours each week on extracurricular activities. Non-significant differences were found in the use of electronic media and conversations with student who were "very different from you." Athletes also had similar access to practica, volunteer work, foreign language coursework, study abroad and a culminating senior experience as did non-athletes. Table 4.26 shows the complete statistics on all of the items.

Table 4.26
Enriching Educational Activities Item Means and T-test for Equality of Means

	Athletes		Non-Athletes		t-test for Equality of Means		
	n	*M*	n	*M*	*t*	*P*	*SE*
Used an electronic medium (listserv, chat group, Internet, instant messaging, etc) to discuss or complete assignment	101	2.69	149	2.53	-1.184	.238	.138
Had serious conversations with students who are very different from you.	101	2.65	149	2.87	1.722	.086	.127
Had serious conversations with student of a different race or ethnicity.	101	2.53	149	2.93	3.205	.002**	.124
Practicum, internship, field experience, co-op experience or clinical assignment.	101	2.76	149	2.97	1.906	.058	.107
Community service or volunteer work.	101	3.13	149	3.06	-.526	.599	.130
Participate in a learning community.	101	2.29	149	2.51	1.789	.075	.125
Foreign language coursework	101	3.00	149	2.74	-1.842	.067	.138
Study abroad	101	2.01	149	2.08	.695	.487	.102
Independent study or self-designed major	101	2.01	149	2.07	.698	.486	.092
Culminating experience	101	2.25	149	2.34	.780	.436	.121
Hours spent in co-curricular activities	101	5.38	149	1.72	-16.613	<.001**	.220
Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	100	2.38	149	2.72	2.612	.010**	.129

Note. No significant differences with the Levine's test for equality of variance so equal variances are assumed.
*$p < .05$, **$p < .01$.

To summarize, only the benchmark related to academic challenge measured a significant difference between the athlete sample and non-athlete sample. Under further review, some

individual benchmark items showed differences between the two groups especially in the area of academic challenge. Specifically they varied in the amount to which the were required to synthesize, and organize information; make judgments about the value of information, arguments and methods; the number of books read and papers written, the number of hours spent studying each week and the students' perceptions about the institutions emphasis on academic work. Items in other benchmarks that showed differences between the two groups included the participation in a community based project as part of a regular course, the discussing of academic ideas with students outside of class, the frequency with which students talked to their professors about grades or an assignment, the hours spent on co-curricular activities and the extent to which student felt their institution encouraged contact among students from different economic, social, and racial or ethnic backgrounds.

Academic success. The first set of hypotheses dealt with the student-athletes and non-athletes experiences on campus and how they differ. The next hypothesis addresses the grade point averages of athletes and non-athletes and predicted no significant difference. An independent samples t-test on the data rejected this null hypothesis finding a significant difference ($p = .001$, SE .0758). The mean for athletes was 2.95 while the mean for non-athletes was 3.19 (see table 4.31). As combined ACT scores (English, math, reading, and scientific reasoning) have been previously correlated with GPA, and some studies have shown athletes to enter college with lower average ACT scores, I ran a similar independent samples t-test on the ACT scores for athletes and non-athletes. Because transfer students do not always have ACT scores, only 77 of the 101 student-athletes had ACT scores. All of the non-athletes have recorded ACT scores because of the large pool from which the students were randomly selected. The subset of athletes with ACT scores received significantly lower

marks on that entrance exam than the non-athletes at the level of $p < .01$. Table 4.31 shows the means of athletes at 22.05 while non-athletes have a mean ACT score of 24.72 ($t = 3.212$, $p < .001$, $SE = .561$). To place this in context, the national average for freshmen in the United States is 21, while the state average where MCU is located is 22. The average ACT score for all freshmen is 24 which is slightly less than the sample studied here. A possible explanation of the differences between athlete and non-athlete ACT scores will be addressed in chapter five.

Table 4.31
GPA & ACT Means and T-test for Equality of Means

	Athletes		Non-Athletes		t-test for Equality of Means		
	n	*M*	n	*M*	*t*	*P*	*SE*
Cumulative GPA	101	2.95	149	3.19	3.212	.001**	.0758
ACT score	77	22.05	149	24.72	4.763	<.001**	.561

Note. No significant differences with the Levine's test for equality of variance so equal variances are assumed.
*$p < .05$.

A further statistical procedure was performed to see if the grade point averages and ACT scores correlate with the two samples as they have in other educational research. A Pearson correlation was completed on the data to find $r = .374$ ($p = .001$) for the correlation of cumulative grade point average to ACT scores for student-athletes and an $r = .479$ ($p < .001$) for non-athletes. Both populations show a significant correlation at the $p < .01$ level but the correlation for non-athletes is stronger than for athletes (see table 4.32).

Table 4.32
Correlation of ACT Scores to Grade Point Average

	Athletes		Non-Athletes		Both	
	r	*P*	*r*	*P*	*r*	*P*
GPA and ACT	.374**	.001	.479**	<.001	.479**	<.001

Note. ** $p < .01$.

Correlation of benchmark scores to grade point average. The final set of hypotheses was designed to compare the correlation of each of the benchmark scores to grade point averages for each group. Table 4.41 addresses these correlations. Only two benchmark scores correlated to grade point average for either of the two groups. The data for athletes showed no significant correlation for any of the benchmarks. Hypothesis III -1 predicted no significant difference between athletes and non-athletes in the correlation between GPA and their levels of academic challenge. As the correlations for both groups are non-significant, it is impossible to compare the two. The same is the case for hypothesis III – 2 which predicted no significant difference between athletes and non-athletes in the correlation of grade point average and the level of active and collaborative learning. Significance at a $p < .05$ level was found for non-athletes responses to student-faculty interaction ($r = .170, p = .038$) rejecting the null hypothesis III – 3, which predicted no difference in the correlation between the two groups in their relationships with faculty. The issue of enriching educational experiences correlated even more significantly at a $p < .01$ level for non-athletes ($r = .270, p = .001$) showing a difference in the correlations between benchmark four and grade point average between the two groups. Athletes' data did not correlate enriching educational activities to grade point average.

Table 4.41
Correlation of Benchmark Scores to GPA

	Athletes		Non-Athletes		Both	
	r	*P*	*r*	*P*	*r*	*P*
Benchmark 1 - Academic Challenge	.135	.179	.155	.058	.168**	.008
Benchmark 2 - Active & Collaborative Learning	.088	.383	.087	.289	.091	.152
Benchmark 3 - Faculty Interaction	-.164	.101	.170*	.038	.049	.444
Benchmark 4 - Enriching Experiences	.134	.182	.270**	.001	.214**	.001

Note. *$p < .05$, ** $p < .01$.

Academic challenge and grade point average. Despite the fact that benchmark means as a whole for academic challenge showed no correlation to GPA for either group, one of the benchmark items was correlated for both groups. Grade point average was linked with the number of hours spent in academic work for athletes ($r = .342$, $p = .000$) and non-athletes ($r = .239$, $p = .003$). Both of these correlations meet significance criteria at the $p < .01$ level. The implications of this strong relation will be explored further. The rest of the items exploring academic challenge are presented below in table 4.42 and showed no significant correlation to grade point average.

Table 4.42
Correlation of Items of Academic Challenge to Grade Point Average

	Athletes		Non-Athletes		Both	
	r	*P*	*r*	*P*	*r*	*P*
Working harder than you thought you could to meet an instructor's standards or expectations.	.155	.122	.056	.497	.109	.085
Analyzing the basic elements of an idea, experience or theory, and considering its components.	.156	.121	-.033	.689	.077	.225
Synthesizing and organizing ideas, information, or experiences.	.148	.142	.050	.541	.126*	.047
Making judgments about the value of information, arguments, or methods	.126	.215	.044	.598	.112	.079
Applying theories or concepts to practical problems or in new situations.	.091	.370	.022	.787	.071	.264
Number of assigned textbooks, or book length packs of course readings.	-.117	.149	.079	.341	.049	.441
Number of written papers or reports 20 pages of more.	-.156	.123	-.004	.964	-.093	.144
Number of written papers or reports between 5 – 19 pages.	-.050	.624	-.037	.651	-.058	.365
Number of written papers or reports less than 5 pages.	.008	.937	.101	.220	.078	.218
Hours per 7-day week spent preparing for class	.342	.000**	.239	.003**	.319**	000
Spending significant amounts of time studying and on academic work.	.016	.872	.100	.225	.118	.062

Note. ** $p < .01$.

Active and collaborative learning and grade point average. Similar to Benchmark 1, Benchmark 2 showed significance in a couple items that were not reflected in the overall benchmark means for active and collaborative learning. Both asking questions in class and

working with other students on projects during class showed a significant correlation to grade point average at the $p < .01$ level for non-athletes. Asking questions in class correlated with $r = .236$ ($p = .004$) and working with other students negatively correlated with $r = -.254$ ($p = .002$) with grade point average. Neither of these items correlated to GPA for student-athletes. The act of being a tutor had a positive correlation to grade point average for both groups but a stronger relationship for non-athletes than athletes. Athletes showed an $r = .250$ correlation ($p = .012$) while non-athletes had a correlation of $r = .245$ ($p = .003$). None of the other items as seen in table 4.43 showed a relationship to grade point average.

Table 4.43
Correlation of Items of Active and Collaborative Learning to Grade Point Average

	Athletes		Non-Athletes		Both	
	r	*P*	*r*	*P*	*r*	*P*
Asked questions in class or contributed to class discussions.	-.060	.554	.236**	.004	.155*	.014
Made a class presentation.	.144	.257	-.061	.459	.020	.756
Worked with other students on projects during class.	.005	.962	-.254**	.002	-.152*	.016
Worked with classmates outside of class to prepare class assignments.	.127	.206	-.077	.353	-.001	.981
Tutored or taught other students (paid or voluntary).	.250*	.012	.245**	.003	.260**	.000
Participated in a community-based project as part of a regular course.	-.070	.486	.019	.820	-.037	.562
Discussed ideas from your readings or classes with others outside of class.	.022	.826	.066	.421	.102	.107

Note. *$p < .05$, ** $p < .01$.

Student faculty interaction and grade point average. Despite the fact that the overall benchmark scores for student-faculty interaction correlated to grade point average for non-athletes, none of the individual items showed a significant relationship to GPA on their own. None of the specific items correlated for athletes either. Working on a research paper with a faculty member comes close to correlating for non-athletes at a $p = .057$. At first glance it appeared that there may have been a significant difference between the correlation coefficients for the two groups as athletes had negative correlations and non-athletes had positive correlations, but a statistical test proved the relationship to non-significant. All of the other factors appear to have no correlation and are outlined further in table 4.44.

Table 4.44
Correlation of Items of Student-Faculty Interaction to Grade Point Average

	Athletes		Non-Athletes		Both	
	r	*P*	*r*	*P*	*r*	*P*
Discussed grades or assignments with an instructor.	-.060	.554	.083	.312	.019	.770
Talked about career plans with a faculty member or advisor.	-.123	.221	.140	.089	.048	.453
Discussed ideas from your readings or classes with faculty members outside of class.	-.113	.261	.092	.263	.015	.810
Received prompt feedback from faculty on your academic performance (written or oral).	-.099	.322	.043	.603	.014	.827
Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.).	-.045	.652	.096	.245	.052	.409
Worked on a research project with a faculty member outside of course of program requirements.	-.064	.525	.156	.057	.079	.211

Note. *$p < .05$, ** $p < .01$.

Enriching educational activities and grade point average. Hypothesis III-4 predicted no significant difference between athletes and non-athletes in the correlation between GPA and the levels of enriching educational experiences in which they participate and was rejected. Only one of the benchmark items, however correlated individually with GPA. The studying of a foreign language had a positive correlation to grade point average for student athletes at the $p < .05$ level ($r = .192, p = .019$). A few items correlated significantly for a data set of both athletes and non-athletes. Having serious conversations with students of a different race ($r = .131, p = .038$), participating in a practicum, internship, field experience or clinical or co-op experience ($r = .169, p = .007$), and doing foreign language coursework ($r =$

.134, $p = .034$) all correlated at the $p < .05$ level. No other significant relationships existed as can be seen in table 4.45.

Table 4.45
Correlation of Items of Enriching Educational Activities to Grade Point Average

	Athletes		Non-Athletes		Both	
	r	*P*	*r*	*P*	*r*	*P*
Used an electronic medium to discuss or complete assignment	.008	.920	.150	.133	.051	.423
Had serious conversations with students who are very different from you.	.014	.868	-.056	.579	.023	.717
Had serious conversations with student of a different race or ethnicity.	.138	.093	-.006	.953	.131*	.038
Practicum, internship, field experience, co-op experience or clinical assignment.	.158	.054	.115	.252	.169**	.007
Community service or volunteer work.	.099	.299	.129	.199	.108	.088
Participate in a learning community	.076	.359	.026	.798	.082	.193
Foreign language coursework	.192*	.019	.092	.358	.134*	.034
Study abroad	-.031	.710	.043	.672	.007	.914
Independent study or self-designed major	.124	.132	-.059	.560	.064	.315
Culminating experience	.066	.422	-.173	.083	-.088	.895
Hours spent in co-curricular activities	.050	.542	.069	.495	-.100	.113
Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	.012	.881	-.090	.373	.022	.734

Note. *$p < .05$, ** $p < .01$.

Although outside of the scope of the benchmarks, an independent samples t-test was performed on the questions relating to how athletes spend their time as many of the

benchmarks incorporate one or more factors of time on task (see table 4.46). Athletes spent only marginally shorter amounts of time relaxing than non-athletes with a mean of 3.83 versus 4.16 for non-athletes ($t = 2.681, p = .137, SE = .223$) and commuting with a mean of 2.37 versus 2.57 ($t = 1.44, p = .151, SE = .142$). While athletes are involved in sports, non-athletes are working off campus and serving as caregivers to other family members. These two activities are statistically different between the two samples. Non-athletes had a mean of 3.32 or 6 – 15 hours a week working off campus while athletes only work 1-10 hours a week for a mean of 2.10 ($t = 4.178, p = .000, SE = .293$). Similarly, non-athletes serve as caregivers with a mean of 1.96 versus 1.42 ($t = 2.684, p = .008, SE = .203$). Neither of these activities has a relationship to grade point average but indicates that non-athletes engage in time-consuming activities outside of academic studies just as athletes spend time outside academics on extra-curricular activities.

Table 4.46
Time Spent on Non-School Activities

	Athletes		Non-Athletes		t-test for Equality of Means		
	N	*M*	n	*M*	*t*	*P*	*SE*
Working on campus	101	1.43	149	1.40	-.212	.832	-.030
Working off campus	101	2.10	149	3.32	4.178	< .001**	1.223
Socializing	101	4.16	149	3.83	-1.490	.137	-.333
Caring for family member	101	1.42	149	1.96	2.681	.008**	.544
Commuting	101	2.37	149	2.57	1.440	.151	.204
Totals	101	11.48	149	13.08			

Note. No significant differences with the Levine's test for equality of variance so equal variances are assumed.
**$p < .01$.

Multiple Regressions

Finally multiple stepwise regressions were run on data for athletes and non-athletes separately with grade point average as the dependent variable. The independent variables included ACT scores, race, sex, father's educational level, mother's educational level, and each of the benchmark means. For athletes, the SPSS multiple regression process excluded all other independent variables with AC T scores accounted for 38 percent of the variance among this group (see table 4.51). The criterion for this regression was $p < .05$.

Table 4.51
Coefficients of Regression for Athletes for Demographics and Benchmark Means

	Unstandardized Coefficients		Standardized Coefficients		
	B	*SE*	ß	*t*	*P*
(Constant)	1.663	.376		4.421	.000
ACT	.060	.017	.380	3.538	.001**

Note: Dependent variable: GPA, *$p < .05$, ** $p < .01$

A similar procedure was conducted for non-athletes to find ACT as the only relevant independent variable. ACT predicted 37.6 percent of the grade point average (see table 4.52) and the identification of race as African American predicted 31.7 percent of the variance.

Table 4.52
Coefficients of Regression for Non-Athletes for Demographics and Benchmark Means

	Unstandardized Coefficients		Standardized Coefficients		
	B	*SE*	ß	*t*	*P*
(Constant)	1.556	.270		5.763	.000
ACT	.055	.010	.376	5.218	<.001**
African American Status	-.571	.129	-.317	-4.408	<.001**

Note: Dependent variable: GPA, ** p < .01

Because some of the benchmark items showed as significant in earlier computations even when the benchmark means did not, separate stepwise regressions were conducted to determine how these individual benchmark items predicted academic success. Independent variables entered into the regression included the demographic characteristics of ACT, race, sex, father's education, mother's education, as well as benchmark items including number of hours spent in academic preparation, classes that require synthesis of information, classes that require evaluation of information and methods, asking questions in class and participating in group projects in class. For athletes, only ACT and the number of hours spent in academic preparation had significant predictive value for grade point average. ACT accounted for 34.2 percent of the prediction and time spent on academics had a coefficient of 32.5 percent (see table 4.53).

Table 4.53
Coefficients of Regression for Athletes for Demographics and Benchmark Items

	Unstandardized Coefficients		Standardized Coefficients		
	B	*SE*	ß	*t*	*P*
(Constant)	1.377	.369		3.735	.000
ACT	.054	.016	.342	3.325	.001**
Time spent on academic preparation	.129	.041	.325	3.164	.002**

Note: Dependent variable: GPA, ** $p < .01$

For non-athletes, the same independent variable produced different results. The success of these students was still predicted by ACT (34.4 percent) but class preparation was no longer a significant factor. Status as an African American accounted for 27.9 percent of

the variance, while participation in groups inversely predicted success 20.4 percent of the time. Finally, asking questions in class predicted 15.3 percent of the variance (see table 4.54).

Table 4.54
Coefficients of Regression for Non-Athletes for Demographics and Benchmark Items

	Unstandardized Coefficients		Standardized Coefficients		
	B	*SE*	ß	*t*	*P*
(Constant)	2.101	.324		6.479	.000
ACT	.050	.011	.344	4.713	<.001**
African American Status	-.507	.128	-.279	-3.978	<.000**
Doing a group project in class	-.143	.048	-.204	-2.951	.004**
Asking questions in class	.104	.046	.153	2.254	.026*

Note: Dependent variable: GPA, * $p < .05$, ** $p < .01$

Lastly a regression was run with both groups together using the same variable as above but adding athletic status as an independent variable. Athletic status did not emerge as a relevant variable for this regression (see table 4.55). As was seen in the regressions for the two separate groups, ACT score was the dominant predictor with 36.6 percent of the variance. Time spent preparing for class and status as an African American accounted for 18.3 percent and 18.5 percent of the variance respectively. Lastly, having enriching educational experiences emerged with 15.4 percent of the variance among the combined groups.

Table 4.55
Coefficients of Regression for All Students for Demographics, Benchmark Items and Athletic Status

	Unstandardized Coefficients		Standardized Coefficients		
	B	*SE*	ß	*t*	*P*
(Constant)	1.484	.215		6.4900	.000
ACT	.052	.009	.366	6.056	<.001**
Time spent on academic preparation	.063	.020	.183	3.203	.002**
African American Status	-.325	.103	-.185	-3.147	.002**
Enriching Educational Experiences	.006	.002	.154	2.733	.007**

Note: Dependent variable: GPA, * $p < .05$, ** $p < .01$

Student Major

While college major was not a factor originally discussed in any of the hypothesis, the data related to major deserves examination. Student-athletes enroll in different majors than non-athletes at Metropolitan University. Table 4.61 displays the majors for both groups of individuals. Athletes are clustered in several majors; specifically business, communications, and psychology and at a far greater percentage than the non-athletes. These three majors enroll 42 percent of the athletes but only 12 percent of the non-athletes. Conversely, none of the student-athletes in the study identified themselves in the majors of medicine (a combined B.A./M.D. program), pharmacy, computer science, biology, or music, the schools to which MCU attracts the most highly competitive students. ACT scores for these schools average 29, 28, 25, 24, and 24 respectively. The non-athlete population has 17.3 percent of the sample enrolled in medicine, 8 percent enrolled in pharmacy, 4.7 percent in computer

science, 9.3 percent in biology and 8 percent in music. These top five undergraduate programs enrolled 47.3 percent of the non-athlete sample while none of the athletes report majoring in these highly competitive programs. Furthermore, student-athletes represent a much larger percentage of undeclared majors (10 percent) than their non-athlete counterpoints (1.3 percent). One implication drawn from these data is that student-athletes on average do not attend MCU for the purpose of being academically competitive, either because their ACT scores do not allow them access to these more competitive majors or because they choose instead to focus on athletics. This may link back to the students' initial impression of the University as a location for serious academic pursuit.

Table 4.61
Academic Majors of the Two Samples

	Athletes		Non-Athletes	
	n	percent	n	percent
Accounting	1	1.0	3	2.0
Art	5	5.0	3	2.0
Biology	3	3.0	14	9.3
Business	20	20.0	7	4.7
Chemistry	1	1.0	5	3.3
Communications	10	10.0	6	4.0
Computer Science	0	0.0	7	4.7
Criminal Justice	3	3.0	3	2.0
Dental Hygiene	1	1.0	3	2.0
Dentistry	0	0.0	3	2.0
Economics	1	1.0	2	1.3
Education	8	8.0	9	6.0
English	1	1.0	5	3.3
Engineering	4	4.0	3	2.0
History	0	0	1	0.6
Liberal Arts	5	5.0	1	0.

Medicine	0	0.0	26	17.3
Music	0	0.0	12	8.0
Nursing	8	8.0	3	2.0
Pre-Health	1	1.0	6	4.0
Pharmacy	2	2.0	12	8.0
Psychology	12	12.0	5	3.3
Philosophy	1	1.0	0	0.0
Political Science	2	2.0	1	0.6
Sociology	1	1.0	0	0.0
Theatre	0	0.0	1	0.6
Urban Affairs	1	1.0	3	2.0
Undeclared	10	10.0	2	1.3
Total	101	100	146	100

By collapsing these majors into broader category, it is clear that it is not just specific majors that athletes are drawn to or avoid. Table 4.62 collapses the majors into larger fields of study. Athletes are more likely to be found in professional studies than in science or liberal arts. Over 50 percent of the sample can be found in majors that are professional or pre-professional compared to only 20.8 percent in the non-athlete sample. These numbers are reversed in the field of science where over 55 percent of the non-athletes are science majors compared to only 19.8% in the health sciences, engineering, computer science and chemistry.

Table 4.62
Academic Major Types of the Two Samples

	Athletes		Non-Athletes	
	N	percent	N	Percent
Professional (business, communications, education, urban planning)	52	51	31	21
Science (health sciences, engineering, computer science, chemistry)	20	19.6	83	56.5
Liberal Arts (art, English, history, philosophy, psychology, philosophy, political science, music, theatre)	30	29.4	33	22.5
Total	102	100	147	100

Summary of Results

The data bore out some of the hypotheses and rejected others. Student athletes and non-athletes have similar levels of engagement in all areas except academic challenge but how they are engaged as exhibited by the difference in each of the benchmark items may be the real story. There is a definite difference in their incoming readiness for college as is exhibited by their ACT scores and in and their grade point averages. For athletes, none of the benchmarks taken as a whole is significantly correlated to their academic success; however, individual items are important. For non-athletes, however, student-faculty interactions and enriching educational experiences are significantly linked with academic success. Probably most important are the results of the regression for both groups independently that indicates ACT as the primary factor in predicting student success. For athletes, time spent in preparation was another factor, while non-athletes had status as an African American, participation in groups and asking questions in class are additional factors in predicting

student success. The final regression shows that despite some differences between athletes and non-athletes, status as an athlete was not a significant factor once all other variables were considered. The complex set of factors discovered here are pulled together in the discussion in chapter five.

CHAPTER V

SUMMARY AND DISCUSSION

Summary

As has been discussed before, the landscape of college athletics is complicated. So too is the data that surrounds student-athletes. While definitive answers cannot be drawn, some strong implications are shown in this study.

Academic success. One of the purposes was to determine if athletes and non-athletes succeed equally at MCU. In this case athletes' grade point averages were .24 lower than non-athletes, a significant difference ($p = .001$). Some of the variance can be explained by the level to which athletes and non-athletes come prepared for university work. As has been seen in other research, the athletes at Metropolitan City University come to college less prepared than their non-student counterparts. The ACT data bears this out with strong statistical significance. Non-athletes averaged an ACT score of 24.0 while athletes only had a 22.05 ($p < .001$). None-the-less, athletes still averaged ACT of 22.05, which is higher than the national average of 21 and the state average of 22. It falls short, however, of the MCU freshman average of 24. The strong correlation between standardized tests and grade point average found by other researchers (Bowen & Levin, 2003; Hood, Craig & Ferguson, 1992; Siegel, 1994; Snyder, 1996; Stuart, 1985) would predict lower grade point averages for athletes. Indeed, this is the case with this population with 34.2 percent of the GPA predicted by ACT scores.

Another strong predictor of ACT scores for non-athletes and for both groups combined was whether or not the student was African American. In regression analysis of grade point average with non-athletes and with both groups combined, the identification of

one as an African American predicted negatively 27% and 18% of the GPA respectively. Being an African American did not appear to predict GPA for athletes, possibly because the sample size was smaller. It may also be that the athletic department does a better job of meeting the needs of African American students than can the University as a whole.

Academic challenge. Less preparedness prior to college is not the only difference between student athletes and their counterparts. Another relevant piece of the equation is that athletes spend much less time preparing for their coursework than their counterparts. As the number of hours spent preparing for class is very highly correlated to academic success both in a Pearson correlation and the multiple regression in this study, students who dedicate the time in college work through homework, read assignments, and study, are in a better position to do well academically. Athletes, however, are not dedicating nearly as much time to these critical activities. Non-athletes spend 80% more time on their academic studies outside of class than non-athletes. Not only do athletes allocate less time for academics but they feel that their institution does not emphasize spending the time on coursework as is shown in one of the benchmark questions related to academic challenge. Whether this perception comes from the expectations presented in their courses or by the culture of the athletic department is unclear. Either way, Table 4.23 in the last chapter shows athletes are receiving a message about the importance of academics that is significantly different from that perceived by non-athletes and the resulting time spent on academics is heavily correlated to academic success (Table 4.42). It is how student-athletes react to this perception that is ultimately important.

One implication is that some student-athletes feel that academic are not stressed by the institution but spend the required time to make the grade regardless. The extent to which students see MCU as a serious academic institution may factor into the type of majors

athletes choose to enroll in. If the student perceived from the time of their recruitment that academics were less important than athletics, he or she may have been more inclined to choose majors that would allow them to focus on their athletic pursuits.

Rigor of coursework. While it is dangerous to assert that some fields of study are easier than other, it does appear that the coursework that athletes taken by some is less demanding as can be seen in the benchmark related to academic challenge. Athletes had significantly lower means in this area than non-athletes. Their classes were less likely to synthesize or organize ideas or make judgments about information, arguments or methods. The classes enrolled in by athletes required fewer textbooks and a smaller number of papers written in the 5 – 19 page range.

Despite lower levels of these academically demanding concepts, non-athletes were no more likely to assert that their courses had pushed them to work harder than they thought they could. Thus, student athletes are enrolled in classes in line with their preparedness and their expectations. A student with a greater level of preparedness and higher expectations (because they have enrolled in a competitive program) equally felt that they are up to the task of their courses and respond similarly to the question.

Active and collaborative learning. No overall differences existed between athletes and non-athletes in the benchmark of active and collaborative learning. Further examination of the specific concepts showed subtle difference between the groups, in some cases reflecting varying levels of collaboration and in other instances showing differences in the activity's significance to academic development. This latter situation occurs with both the act of tutoring and the participation in group projects. Student-athletes and non-athletes both benefit from the act of tutoring. The correlations between tutoring and grade point average

were statistically significant for both groups but the relationship was stronger for non-athletes. This may again be a result of the rigor of the two groups' coursework. In highly demanding and competitive programs, the fact that a student served as a tutor would indicate that he or she has a good handle on a difficult subject, something that may separate an otherwise tight pack of achievers.

Similarly, student athletes and non-athletes were alike in the frequency with which they were required to work in groups both during and outside of class. For non-athletes, however, working on group projects in class had a negative correlation to grade point average. This is a surprising as it seems intuitive that collaboration would assist students in achieving good grades. However, as more non-athletes are enrolled in competitive majors, competition may be the norm in those programs rather than collaboration. When the act of engaging others was not required, student-athletes opted out of collaborative learning. They were less likely to interact with classmates outside of class to discuss readings or academic ideas. This fact may relate back to the apparent focus that athletes have on physical endeavors rather than academic ones. They may also be or feel isolated from non-athletes in their classes because of frequent absences due to travel.

The diversity of individuals that athletes' come in contact with on a daily basis experience is also narrower than that of non-athletes. Student-athletes are less likely to have a conversation with a student of a different race or ethnicity than non-students. This may again be a phenomenon of the focus on athletics experienced by athletes. If athletes are less likely to interact outside of class with classmates, they are probably spending more time with each other.

Although athletic teams at some institutions are more diverse than the general academic population, that is not the case with these two samples. Similar in Caucasian and African American percentages, the athletic sample was less diverse in Asian and Hispanic representation. Although contact with students of diverse ethnicities was not significant for either of the two samples independent of one another, when they were combined, the significance of $p = .038$ ($r = .131$) shows that access to diversity is desirable as a general concept even if it did not bear itself out as significant with the two smaller samples. Student-athletes also felt less encouraged by the institution to make contact with individuals from different background, perhaps because they spend so much of their time with the same individuals within the athletic department. This isolation or perceived isolation could explain why they do not interact as much with individuals from other economic, social, racial or ethnic backgrounds.

Student-faculty interactions. In addition to having different relationships with peers, student-athletes also have slightly different relationships with their teachers and classmates. They are more likely than non-athletes to have a conversation with their instructor about a grade or assignment, possibly as a result of the frequency with which athletes are forced to miss class because of travel to competitions. When they are absent from class, by necessity, athletes must communicate with their professors about what they missed. This fact does not have a correlation to grade point average, however. In a related issue, student athletes were just as likely to ask questions in class as non-athletes but the significance of this kind of class participation was only relevant to grade point average for non-athletes. The fact that non-athletes participation in class has a correlation to grade point average can possibly be explained by again looking at the rigor of the coursework. More demanding classes may

require students to seek clarification to understand course concepts while less demanding courses may present information that is more straightforward requiring less class participation to comprehend.

Educationally-enriching experiences. The enriching educational experience benchmark items also revealed differences in the collegiate lives of athletes and non-athletes. In some of these items, the significance of the activity could only be seen when the statistical procedure was performed on both athletes and non-athletes together. This was the phenomenon occurring with access to foreign language work and a practicum, internship, field experience, co-op assignment or clinical assignment.

Although neither item had a statistical significance to grade point average for the two samples independently, there was significance for both populations combined. Having a practicum, internship, field experience, or similar experience had a .169 Pearson correlation to grade point average ($p = .007$). Non-athletes had greater access to these experiences but statistically fell just short of significance with a $p = .058$. Similarly, foreign language work had a .134 Pearson correlation ($p = .034$) to GPA for both populations. In this case, the athlete population has more experiences in this area with a mean of 3.0 versus 2.74 for non-athletes. The significance at $p = .067$ fell short or the $p < .05$ level but might have had more significance with a greater sample of athletes. The two differences in experiences may again be explained by looking at majors. Scientific fields rely heavily on clinical experiences as a teaching tool and are less likely to require a foreign language while liberal arts are the opposite.

Finally the benchmark item for which there was the greatest difference dealt with how students in both samples spent their times. The number of hours spent in co-curricular

activities (which included athletics) was much higher for athletes than those spent by non-athletes. Although this question on the survey covered several types of activities, including student government, Greek life, and major-specific organizations, the majority of the time spent on this category by student-athletes is most likely given to athletics. As the athletes took the survey, they would talk out loud and that question always prompted someone to ask out loud, "how much time do I spend on [this sport]?"

Despite the fact that there was such a difference in time spent on extra-curricular activities between the two groups, there was no correlation negative or positive between the number of hours (or amount of time) spent in these activities and grade point average. Ironically, it is not the time spent on athletics that appears to impact grade point average for athletes but rather the amount of time that they do not spend studying. Besides studying less and engaged in athletics more, how else do athletes' daily activities differ from the average student in the non-athlete sample?

Not only do athletes and non-athletes have qualitatively different experiences in how they spend their days, but the athletes' time appears to be spent with a much narrower focus, specifically engaged in extracurricular activities. This tight focus, presumably on athletics, is clearly a different kind of engagement than that experienced by the rest of the undergraduate population. Furthermore, the students' lives outside of school are different between the two groups. With so much focus in their daily live on athletics, it is not surprising that some student-athletes have a harder time succeeding in their academic world.

Multiple regressions. While much of what is presented above indicates differences in athletes and non-athletes engagement and its relationship to academic development, it is the connection of all these things together that shows the real picture. Several step-wise

regressions were performed in this study to try to get a clearer snapshot of the engagement factors that really impact grade point average. The first regression was designed to determine if any of the engagement benchmarks had a real relation to athletes after several important factors were statistically controlled. ACT has already been discussed in this chapter as an influencing factor in grade point average. Other studies show women athletes performing better in their academic pursuits than men (Burton-Nelson, 1994; Meyer, 1990; Pascarella & Terenzini, 1991). Academic development research implies that the level of parental education can correlate to success (Pascarella & Terenzini). Finally, race can be a confounding factor in analyzing the weight of a correlation.

ACT, gender, race, and parental education level were all loaded into the regression equation with the four benchmark scores. For athletes, the only variable that was important to grade point average was ACT scores. When the benchmark items with any significant correlation (from the Pearson correlations) were added to the equation, ACT remained the most important predictor followed by the amount of time spent on academic coursework. Gender and race were excluded from the equation as insignificant factors as were items related to tutoring, synthesizing or evaluating material or asking questions in class. The implication here is that the single most important activity that an athlete can do to increase his or her chances at academic success is to spend more time on coursework. The concern for MCU is that the students are not having the importance of this task reinforced for them by the institution.

For non-athletes, the regression produced different results. With the same pre-collegiate variables entered with the benchmark means, non-athletes had two significant factors emerge from the equation. The most important factor for non-athletes was ACT, just

like athletes, but another variable emerged for non-athletes as, namely status as an African American. After ACT, this variable predicted 31.7 percent of the variance in grade point averages. It is unclear why this variable predicts for non-athletes and non-athletes, but again it may have to do with the sample size or possibly the athletic department's ability to neutralize issues experienced by African Americans that negatively impact race.

When the individual benchmark items are added into the equation for non-athletes, ACT (34.2 percent) and amount of time spent on coursework (32.5 percent) are the two factors that have any significance. For non-athletes, however, more items were relevant. ACT again had the greatest contribution to the grade point average with 34.4 percent of the GPA predicted by ACT. Status as an African American predicted 27.9 percent and asking questions in class had a 15.3 percent contribution to the grade point average. Working in a group predicted 20.4 percent of the GPA but had an inverse relationship to grade point average. As has been proposed before, non-athletes appear to be more invested in their academic development and are in more competitive programs. The participation in class either affords advanced students the extra clarity they need to understand the coursework or perhaps smarter students participate in class discussions because they understand the concepts being presented.

Most importantly, a regression was run on both groups combined with all of the factors mentioned above plus status as an athlete as an independent variable. Athletic status did not significantly predict GPA.

Implications for Practice

The research has some interesting findings that can assist the athletic department at MCU. Overall the news is good for this particular university. Athletes at MCU arrive with

ACT scores that are higher than the state and national average. They also graduate at rates that are higher than some of the non-athlete counterparts. Forty-one percent of MCU freshman graduated in 2004 from the cohort of 1997-1998 while 43 percent of student-athletes graduated in the same year from the same cohort (NCAA Graduation Survey, 2004). Graduation rates for transfer students were unavailable for the general population at MCU but the NCAA shows the athletic department graduated 60 percent of it transfer students in 2004. Additionally, the fact that athletes and non-athletes both responded similarly to questions about working hard to meet instructor's standards may indicate that MCU has done a good job of meeting the needs and expectations of student athletes. Athletes have taken less challenging academic routes than non-athletes, but this factor in and of itself does not indicate a fault in the school's athletic program.

Administrators could find ways to encourage student-athletes to put more time into their academic subjects while investigating why student-athletes do not perceive MCU to place importance on their coursework. The perception of the emphasis of the institution on coursework is an important one for school administrators to investigate. Raising the academic expectations for athletes could result in attracting more prepared and more academically successful students to the institution. It could also result in student-athletes, similar to those in this study, spending more attention to schoolwork, and thereby raising their grades. None-the-less, athletes are succeeding at MCU as measured by their graduation rates if not by their grades. Most importantly, being an athlete at MCU is not a moderating factor for one's grade point average.

The nurturing of relationships between athletes and non-athletes would assist in breaking athletes out of their isolation, whether real or perceived. Regular conversations with

non-athletes might change athletes' perceptions about the importance of academics as well as expose student-athletes with a broader range of individuals. Athletes would not just benefit from these relationships socially, but possibly in their grade point averages because of the correlation found in this study between GPA and having serious conversations with diverse individuals.

Outside of the athletic department, MCU needs to further evaluate how to remove barriers to African Americans in the general student population. Of all of the variables measured in the NSSE survey, being an African American was the second largest predictor of student success: in this case a negative predictor. This issue should be a serious concern for the University's administration.

Transferability of This Study

Much can still be learned about the experiences of athletes and how institutions can better help them succeed. This study has looked at a small slice of athletes and compared them to their non-athlete counterparts at a specific institution in the Midwest. Some of the lessons learned here are transferable and answer questions about a larger section of athletes. While the individual demographics of the students and institution may differ from other situations across the country, there are many athletic programs in Division I, II and III that struggle with balancing academic goals with athletic success. Many institutions, particularly those without football, from all of the divisions deal with a range of academic programs of varying academic challenge. They too probably have student-athletes who are attracted to their institution for reasons that differ from those of the general population. They too probably have students that self-select into less difficult classes and majors. The daily

experiences and division of time are also likely to be common experiences across the different schools, conferences and divisions.

This study with its use of the National Survey of Student Engagement could be used as a model to test the experiences of athletic departments. By examining the benchmark means and items as they relate to athletes and non-athletes, institutions can determine how these two populations are different, if they are at all, and how these differences need to be managed to ensure success of all students. Consideration of pre-collegiate factors and an examination of GPA and even graduation rates, should give an institution a guide to how well they are serving their student-athlete population. The wide spread use of the NSSE survey, makes this a manageable study for all types of institutions to undertake.

F*uture Research*

Many questions still remain and will certainly be explored. On a micro level, data at MCU could be analyzed by team to differentiate between those teams whose student athletes are successfully engaging with the campus and those that are not. This type of analysis could also be done across many institutions to see if data reflected at one institution is also similar at another within a given sport. Other studies have shown basketball and football athletes to have wider gaps in academic achievement with non-athletes than students engaged in other sports (Hood, Craig, Ferguson, 1992; Richards & Aries, 1999). A study analyzing engagement in specific sports could add to this literature. Bowen and Levin (2003) suggest that the real divide in college athletes fall between student-athletes on scholarship and those who are walk-ons or receive no aid. Studying how these two different set of athletes engage with their institutions may show how athletic programs impact student development by offering (or not-offering) scholarships to student-athletes.

An examination of different divisions within the NCAA could show how certain elements of the student experience differ depending on the cultures of the various divisions. Similarly, analysis could be drawn between conferences within divisions to see if each really has a distinct culture that affects academic development. If the survey was administered both during season and out-of-season for athletes, a comparison by term could determine whether students are able to focus more on academics when they are not constantly involved in active athletic competition. A large student between male and female student-athletes could also be very interesting.

MCU plans to continue to use the NSSE survey with their student population and has discussed increasing the number of athletes who participate in the survey. If they are successful in getting good representation from student athletes, a longitudinal study of MCU student athletes would be possible and worthwhile.

Finally, an examination of the fifth benchmark might illuminate important information. This last benchmark measures how well the institution itself fosters items in the first four benchmarks. To what degree do the students' perceptions of the support of the institution for academics correlate with the students' academic success? This relationship is alluded to in some of the questions included in the first four benchmarks and could highlight best (and worst) practices for institutions.

Conclusions

By now it is clear that athletes and non-athletes are differently engaged with their universities. Non-athletes, who work outside the home and spend more time as caregivers, are more engaged with their university academically. They take harder courses, study more, engage in more critical thinking, and carry the concepts they learn in their courses into

discussions with other students once they leave the classroom. They feel their institution encourages academic development as well as their increased interaction with people of different backgrounds.

Athletes, on the other hand, are more engaged with the non-academic experiences at the university. They spend more time in extracurricular activities than in studying or spending time as caregivers. Their focus appears to be very insular to the world of athletics with less time spent communicating with other students inside or outside of class. They are exposed to a less diverse population of students and feel the University does little to encourage them to do otherwise.

Beyond their differences in engagement once they are on campus, the two populations appear to be most different in two critical pre-collegiate variables, their collegiate aptitude as measured by their incoming ACT scores and their selection of majors. It is unclear whether athletes choose majors that complement their athletic pursuits or if they are genuinely interested in more applied fields. None-the-less the implication of all of these factors is that they are at the university to play sports. Ultimately, the level of engagement has little correlation to their academic success. Further more the mere fact that one is an athlete, does not predict positively or negatively, one's academic success. Much of it has to do with the type of student they are and how much they are willing to apply themselves to their academic studies. The challenge for institutions is to develop programs to meet the expectations and needs of all types of students regardless of their status as an athlete and to help each student fulfill his or her potential.

APPENDIX A

Institutional Access

February 1, 2005

Dr. John Smith, President
Metropolitan City University
250 Metropolitan Avenue
Metropolitan City, Midwest America

Dear Dr. Smith,

I am also a doctoral candidate at The College of William & Mary. I am writing to request permission to use Metropolitan City University as my site for my dissertation research, titled, *Student Athletes' Collegial Engagement and its Effect on Academic Development: A Study of Division I Student Athletes at a Midwest Research University.* My study seeks to identify whether student-athletes have the same level of student engagement (outside their role as an athlete) as do their non-athletic counterparts as shown by the National Survey of Student Engagement. The degree of student engagement will then be correlated to academic success and compared between athletes and non-athletes. I have already spoken with Dr. Art Jones in the Office of Institutional Effectiveness who is excited about the research.

My study involves use of the 2004 Metropolitan City University data set from the NSSE survey as well as administering the same survey to all currently enrolled student-athletes. All information conveyed to me by the student athletes will be done so on a voluntary basis and will remain anonymous. I would additionally be requesting from participating student-athletes access to ACT scores and GPA. These data will allow me both to determine student success (in the case of GPA) and control for pre-collegiate variables. Permission will be requested from the Institutional Research Board in order to ensure human subjects compliance. Additionally I would work with Kelly Fontana in the Athletic Office to ensure that all research is in compliance with the National Collegiate Athletic Associations rules and regulations. Any publications resulting from this study will exclude the name or identifying characteristics of our university or the individuals involved. If you consent the use of Metropolitan City University for this study, I will discuss the details of the execution of the survey with the Athletic Department, Registrar's Office and Office of Institutional Effectiveness. I will contact your office on April 14 to see if you have made a decision or have additional questions. In the meantime, I can be contacted at 816-235-2742 (day) or 913-722-6535 (evening & weekends) if you have any questions or reservations about this process. You may also contact my dissertation advisor, Dr. Dorothy Finnegan at 757-221-2346. Thank you.

Sincerely,

Susan Hathaway, Doctoral Candidate
College of William & Mary

c: Richard White, Director of Athletics

APPENDIX B
Human Subjects Permission

Metropolitan City University
Social Sciences Institutional Review Board
Application for Review of Research Involving Human Subjects

Date: July 29, 2005

Level of Review Requested:
X Exempt
☐ Expedited
☐ Full Review

A. GENERAL INFORMATION

1. **Principal Investigator(s):** (*Name, degree, title, dept, address, phone #, e-mail & fax)*
Susan Hathaway
Doctoral Candidate
College of William & Mary
7431 Woodson
Overland Park, KS 66204
913-722-6535
hathaways@umkc.edu

2. **Faculty Supervisor(s)** (If PI is Student): (*Name, campus address, phone #, e-mail & fax)*
Dorothy E. Finnegan, Ph.D.
College of William & Mary
School of Education
P.O. Box 8795
Williamsburg, VA 23187-8795
757-221-2346
757-221-2988 (fax)
definn@wm.edu

3. **Title of Project:**

Student Athletes' Collegial Engagement and its Effect on Academic Development: A Study of Division I Student Athletes at a Midwest Research University

3a **If externally funded, title of project listed on the grant data form**
n/a

4 **Level of Project:**

☐ Faculty Research

Student Research:
X Dissertation
☐ Thesis
☐ Class Project
☐ Other (Specify) _____

If Student Research, has this proposal been approved by student's committee?

Yes X No ☐

A copy of the approval must be attached in order for the proposal to be considered

5. ***Funding:*** *X NA*
6. ***Funding Status:*** *X NA* ☐ *Funded*

7. **Has this application been submitted to any other Institutional Review Board?**

X Yes ☐ No Protection of Human Subjects Committee
The College of William and Mary
Approved, October , 2004

If yes, provide name of committee, date, and decision. Attach a copy of the approval

9. **Expected Project Start Date: November 10, 2004**

10. **Expected Completion Date: April 20, 2005**

B. SUMMARY OF PROPOSED RESEARCH

1. **Purpose and/or Rationale for Proposed Research**
(Describe the purpose and background rationale for the proposed project as well as the hypotheses/research questions to be examined.)

This study is designed to assess the degree of engagement of college athletes at a Division I school versus non-athlete students. Secondly, since student engagement, particularly that tied to academic subjects, has been shown to be related positively to academic success (Pace, 1982; Astin, 1993; and Anaya, 1996), this study will determine if a correlation exists between the level of engagement of student athletes and academic success as demonstrated by grade point average. Confounding variables, like race, gender, pre-collegiate preparation, as exhibited by ACT scores, and familial education background, will also be considered.

This study will address several groups of research questions. These questions are prompted by the factors that engagement researchers have found to correlate to student academic success. The first set of questions is designed to inquire into the level of academic challenge experienced by students. Do athletes take classes with the same academic rigor as non-athletes? How do classes taken by both groups compare in the number of assignments, textbooks, papers, and required study time. Does the work involve analysis, synthesis, the drawing of conclusions and the application of theory? The second set of questions inquires into the active and collaborative learning that exists in a student's college experience. Do athletes ask questions in class, make presentations, work with students on group projects, work together on community projects outside of the classroom, tutor other students, or discuss class-related subjects outside of class time? The third set of factors points to the level of interaction between students and faculty. Do athletes discuss grades, their careers or class subject matter with their professors outside of the regular course time? Do they work with professors on research or community based projects? Are the levels the same for athletes and non-athletes? The fourth cluster of questions deal with whether athletes are as engaged in their college experience as non-athletes. How do athletes compare to non-athletes in their participation of enriching activities like extracurricular activities, practica or internships, community service or volunteerism, and interaction with individuals of diverse backgrounds? Each of these sets of questions will result in a composite score that will then be tested for a correlation with academic success as exhibited by GPA.

2. **Methodology/Procedures**
(Describe sequentially and in detail, all procedures in which the research participants will be involved, e.g., paper and pencil tasks, interviews, surveys, questionnaires, physical assessments, time requirements, etc.)

This study will be quantitative in nature and use a single institution's students for data collection. Data will include the entire data set of 692 responses from MCU for the 2003 National Survey of Student Engagement as well as a new data set resulting from a paper and pencil administration of the NSSE 2003 to the full complement of the 2004-05 student athletes. Student GPA and ACT scores will also be acquired for all athletes and non-athletes from the Registrar's Office for the study. Three sets of research questions exist for this study examining 1) the degree to which student athletes are engaged compared to the general population; 2) the success of athletes versus non-athletes in GPA; and 3) the correlation of this student engagement to academic development. The degree of student engagement will be determined by measuring the level of academic challenge, active and collaborative learning, student interactions with faculty members and enriching educational experiences through the National Survey of Student Engagement. The NSSE survey will produce a composite score for each of these clusters. A step-wise regression analysis will be run on each cluster as well as each item within the cluster. The target of the step-wise regression will be GPA and will be first with the five cluster scores, for the separate groups: athletes and non-athletes. Where the clusters do predict, separate regression analyses for individual items within those clusters will be run. Each cluster has between 6 and 10 survey items, but some of the survey items have multiple responses.

Prior to any research, permission to conduct the study will be sought from President _____. She will be approached through a letter summarizing the proposal. Student athletes will be asked through a letter to participate in the study by taking the survey as well as releasing their academic information to me. All students will be assured confidentiality in the use of their student information. Responses will be used only in the aggregate. Student will also be informed of their right to refrain from participation without discrimination as well as the ability to withdrawal at any time. The administration of the survey to student athletes will be in group settings convenient to the athletes such as team meetings or the beginning of practices. Athletes not wishing to complete the survey will be given a crossword puzzle option so they do not feel awkward doing nothing while others are filling out the survey. The meetings will be conducted in a way consistent with the rules and regulations of the National Collegiate Athletic Association.

3. **Participants Involved in the Study**
(Describe in detail the sample to be recruited including number of participants, gender, age range and any special characteristics.)

Participants will include undergraduate male and female student athletes from the UMKC Athletic Department.

4. **Recruitment Process**
(Describe how and from what source the participants will be recruited. Indicate where the study will take place. Attach a copy of any poster(s) advertisement(s) or letter(s) or solicitation scripts to be used for recruitment).

Assistance will be sought from the Athletic Department to administer the survey during convenient team meetings. In addition to the survey, students will be given the following letter:

Dear student-athlete,

My name is Susan Hathaway. I am a doctoral student at the College of William & Mary. I am conducting research for my dissertation on student engagement and athletics and I am seeking your help. If you choose to participate you will be asked to complete a short survey that should take no more than 10-15 minutes to complete. You may choose not to participate.

Your individual answers are completely anonymous and will only be used in combination with other

students' answers. Your individual name and the name of this institution will not be connected with any publication summarizing this survey. You will need to include your social security number at the bottom of the last page. By filling out the survey and including your social security number, you are granting me permission to access information from your student record. Again, none of your student information will be used in connection with your name or will identify you as an individual in any way.

It is important for you to know that your participation is voluntary and you have the right to refuse to participate in any part of the study. Your standing on your team will not be affected by choosing to participate or not. You may also withdraw your consent at any time without penalty.

Thank you for your assistance.

Susan Hathaway

5. Compensation of Participants

Will participants receive compensation for participation? Yes ☐ No X
If yes, please provide details:

C. POTENTIAL BENEFITS FROM THE STUDY

(Discuss any potential direct benefits to participants from their involvement in the project and/or the potential benefits to society that would justify involvement of participants in this study.)

The questions described above will be answered through the investigation proposed below and serve several functions by addressing an unexplored connection between involvement theory and student-athlete success in Division I athletics. Each of the four clusters mentioned above will provide insight to those factors that appear as detrimental to academic development. Cluster one, "level of academic challenge" will provide needed research in an area difficult to study. Specifically, the rigor of coursework taken by athletes is difficult to examine. The practice of athletes clustering in majors perceived by students to be "easier" appears frequently in the literature (Adler & Adler, 1985; Bowen & Levin, 2003; Pascarella, Bohr, Mora, & Terenzini., 1995; Sack, 1987). This research will establish whether classes taken by athletes are as rigorous as those taken by non athletes. The second cluster, "active and collaborative learning" will inform research on the kinds of student-to-student relationships experienced by athletes and non-athletes and whether they have the same level of interactions. These relationships have been shown by Pascarella (1985) as well as Astin (1993), Fieldman & Newcomb (1969), and Pascarella & Terenzini (1991) to affect student development. This research will confirm whether this relationship is as important to academic development in athletes as it is in the general population. The third cluster, "student-faculty interaction" will add to the already solid body of knowledge about the importance of student-faculty interactions (Chickering & Reisser, 1993; Kuh et al., 1991; Pascarella & Terenzini, 1991; Stark & Lattuca, 1993). The extent to which athletes experience these relationships and the effect that they have on their academic development will be an important addition to the literature. Finally the final cluster, "enriching educational experiences" addresses the need to understand the affect of a student's involvement in learning-centered extracurricular activities on their academic development. Research by Astin, and Feldman, and Newcomb show this involvement as being significant. This research will show if athletes experience the same levels of involvement as other students and if these experiences impact their academic development. Overall this research will uncover the level of engagement of student athletes as it compares to non-athletes and will supplement known research about engagement as it impacts athletes' academic development. Finally it is important to constantly add to the general body of knowledge about athletes in general. Some of the most thorough research on athletics is aging. It is important for institutions to understand how athletes have changed since this research was conducted. This information will further provide athletic administrators with the tools to foster the most positive environment possible. Information about possible reasons for student-athletes academic success is needed to create policies, practices and attitudes to encourage student athlete success.

D. POTENTIAL RISKS FROM THE STUDY

1. *(Discuss the known and anticipated risks, if any, of the proposed research. Specify the particular risks(s) associated with each procedure or test. Consider both physical and psychological/emotional risks.)*

None

2. *(Describe the procedures or safeguards in place to protect the physical and psychological health of the participants. [e.g. referral to psychological counseling resources])*

The confidentiality of all information will be guaranteed.

E. CONSENT

1. **Informed Consent** (if applicable):
(*Describe the procedures used to obtain consent and attach a consent form.*)
Students will sign the following concert form attached to the survey; I will maintain these signed forms in my files.

I, ____(name)_____ with the Social Security Number of ____(SSN)_____, consent to the use my grade point average and demographic student data for the purposes of this study. I understand that my name will not be associated with any of the results. I also understand that participation is voluntary and that I have the right to refuse to participate in any part of the study. My standing on my team will not be affected by choosing to participate or not. I also understand that I may choose to withdraw my consent at any time without penalty.

2. **Information Script**:
(*If written consent will not/cannot be obtained or is considered inadvisable, justify this and outline the process to be used to otherwise fully inform participants.*)

N/A

***For research involving minors**, or others who are not competent to give legally valid consent, describe the process to be used to obtain permission of parent or guardian. Attach a copy of an information-permission letter to be used.*

N/A

F. ASSENT

(*For persons who are not legally competent to giver consent but are reasonably competent to decide whether to participate or not pleased describe the procedure you would use to gain assent and attach the form.*)

N/A

G. CONFIDENTIALITY

(*Describe the procedures to be used to ensure anonymity of participants and confidentiality of data both during the conduct of the research and in the release of its findings. Explain how written records, video/audio tapes, questionnaires will be secured and provide details of their finial disposal. If data are not intended to be confidential, note how consent form fully discloses this to participants.*)

Data received from the Registrar's Office will not contain names. Once the GPA and ACT scores are merged with the survey results, the social security numbers will be removed.

H. DECEPTION (if applicable):
(*Describe and justify the need for deception. Explain the debriefing procedures to be used and attach a copy of the written debriefing.)*

N/A

Principal Investigator Statement of Assurance

The proposed investigation involves the use of human subjects. I am submitting the form with a description of my project prepared in accordance with the MCU policies for the protection of human subjects participating in research. I understand the University's policies concerning research involving human subjects and agree to the following:

1. Should I wish to make changes in the approved protocol for this project, I will submit them for review PRIOR to initiating the changes.
2. If any problems involving human subjects occur, I will immediately notify the chair of the SSIRB.
3. I will cooperate with the SSIRB by submitting progress reports in a timely manner.

_____ _____

Signature of Principal Investigator Date

_____ _____

Signature of Faculty Advisor (if any) Date

APPENDIX C

Permission for Use of NSSE Survey

Dr. George Kuh
National Survey of Student Engagement
Indiana University
Ashton Aley Hall
1913 East Seventh Street
Bloomington, IN 47405

Dear Dr. Kuh,

I am also a doctoral candidate at School of Education at the The College of William & Mary with my dissertation research, titled, *Student Athletes' Collegial Engagement and its Effect on Academic Development: A Study of Division I Student Athletes at a Midwest Research University.*

My study seeks to identify whether student-athletes have the same level of student engagement as do their non-athletic counterparts as shown by the National Survey of Student Engagement. The degree of student engagement will then be correlated to academic success and compared between athletes and non-athletes. I have already received permission from a NSSE member school to use its data but would like to administer the 2004 survey to additional athletes to provide a large enough sample for appropriate comparison and analysis. Would you grant me permission and access to 130 additional copies of the written 2003 survey?

I will contact your office on April 14 to see if you have made a decision or have additional questions. In the meantime, I can be contacted at 816-235-2742 (day) or 913-722-6535 (evening & weekends) if you have any questions or reservations about this process. You may also contact my dissertation advisor, Dr. Dorothy Finnegan at 757-221-2346. Thank you.

Sincerely,

Susan Hathaway, Doctoral Candidate
College of William & Mary

APPENDIX D

Communication to Athletic Director

Mr. Richard White
Director of Athletics
Metropolitan City University

Dear Mr. White:

I am a doctoral candidate at The College of William & Mary and have received permission from Dr. John Smith to use Metropolitan City University as my site for my dissertation research, titled, *Student Athletes' Collegial Engagement and its Effect on Academic Development: A Study of Division I Student Athletes at a Midwest Research University.*

My study seeks to identify whether student-athletes have the same level of student engagement (outside their role as an athlete) as do their non-athletic counterparts as shown by the National Survey of Student Engagement. The degree of student engagement will then be correlated to academic success and compared between athletes and non-athletes.

My study involves use of the 2004 Metropolitan City University data set from the NSSE survey as well as administering the same survey to all currently enrolled student-athletes. All information conveyed to me by the student athletes will be done so on a voluntary basis and will remain anonymous. I would additionally be requesting from participating student-athletes access to ACT scores and GPA. These data will allow me both to determine student success (in the case of GPA) and control for pre-collegiate variables.

I write to seek your support in the administration of this survey during team rehearsals or meetings. This will allow me to personally handout and collect the surveys which will yield a higher return rate for this research. The survey should take no more than 10 minutes. If you agree with this method of collecting data, I will work directly with the team coaches and assistant coaches to schedule times convenient to them and their student-athletes. Any publications resulting from this study will exclude the name or identifying characteristics of our university or the individuals involved. I will contact your office on Monday, March 22 to see if you have made a decision or have additional questions. In the meantime, I can be contacted at 816-235-2742 (day) or 913-722-6535 (evening & weekends) if you have any questions or reservations about this process. You may also contact my dissertation advisor, Dr. Dorothy Finnegan at 757-221-2346. Thank you.

Susan Hathaway, Doctoral Candidate
College of William & Mary

APPENDIX E

Email communication for Team coaches

Dear Coach _____:

I am a doctoral candidate at The College of William & Mary and have received permission from Dr. John Smith to use Metropolitan City University as my site for my dissertation research, titled, *Student Athletes' Collegial Engagement and its Effect on Academic Development: A Study of Division I Student Athletes at a Midwest Research University.*

Richard White has agreed to allow me to request team meeting or practice time to administer this 10-15 minute survey. This will allow me to personally handout and collect the surveys which will yield a higher return rate for this research. All information conveyed to me by the student athletes will be done so on a voluntary basis and will remain anonymous. Any publications resulting from this study will exclude the name or identifying characteristics of our university or the individuals involved.

Please let me know if there are times during the period of March 22 - 25, when I might be able to interact with your student-athletes.

In the meantime, I can be contacted at 816-235-2742 (day) or 913-722-6535 (evening & weekends) if you have any questions or reservations about this process. You may also contact my dissertation advisor, Dr. Dorothy Finnegan at 757-221-2346. Thank you.

Susan Hathaway, Doctoral Candidate
College of William & Mary

APPENDIX F

Communication to Students-Athletes

Dear student-athlete,

My name is Susan Hathaway. I am a doctoral student at the College of William & Mary. I am conducting research for my dissertation on student engagement and athletics and I am seeking your help. If you choose to participate you will be asked to complete a short survey that should take no more than 10-15 minutes to complete. You may choose not to participate.

Your individual answers are completely anonymous and will only be used in combination with other students' answers. Your individual name and the name of this institution will not be connected with any publication summarizing this survey. By filling out the survey and signing the attached consent form with your social security number, you are granting me permission to access your GPA and ACT information from your student record. Again, none of your student information will be used in connection with your name or will identify you as an individual in any way.

It is important for you to know that your participation is voluntary and you have the right to refuse to participate in any part of the study. Your standing on your team will not be affected by choosing to participate or not. You may also withdraw your consent at any time without penalty.

Thank you for your assistance.

Susan Hathaway

APPENDIX G

Consent for Participation in a Research Study

Student Athletes' Collegial Engagement and its Effect on Academic Development: A Study of Division I Student Athletes at a Midwest Research University.

Susan Hathaway

Invitation to Participate

You are invited to participate in a research study

Who will Participate

All Student-athletes at Metropolitan City University are being asked to participate

Purpose

The survey is the National Survey of Student Engagement. Some of you may have taken a survey similar to this as a freshman last year. This research deals specifically with athletes.

Description of Procedures

The survey will take between 10 – 15 minutes. There are no penalties for not participating.

Voluntary Participation

Participation in this study is voluntary at all times. You may choose to not participate or to withdraw your participation at any time. Deciding not to participate or choosing to leave the study will not result in any penalty. If you decide to leave the study the information you have already provided will be destroyed if you ask it to be.

Fees and Expenses

There are no fees associated with participation in this study.

Compensation

There is no compensation for participation in this study.

Alternatives to Study Participation

If you choose not to participate, you can work on the crossword puzzle on the back of this form while your peers complete their survey.

Anonymity

Your information will remain anonymous and will not be used in any way that would identify you individually. While every effort will be made to keep confidential all of the information you complete and share, it cannot be absolutely guaranteed. Individuals from the Metropolitan City University Institutional Review Board(a committee that reviews and approves research studies) , Research Protections Program, and Federal regulatory agencies may look at records related to this study for quality improvement and regulatory functions.

In Case of Injury

The Metropolitan City University appreciates the participation of people who help it carry out its function of developing knowledge through research. If you have any questions about the study that you are participating in you are encouraged to call Susan Hathaway, the investigator, at 913-722-6535. Although it is not the University's policy to compensate or provide medical treatment for persons who participate in studies, if you think you have been injured as a result of participating in this study, please call Holly Black of Metropolitan City University's Social Sciences Institutional Review Board, at 555-555-1234.

Questions

In case of questions, please contact Susan Hathaway at 913-722-6535 or Dorothy Finnegan at 757-221-2346

Authorization

By signing below, you authorize Susan Hathaway to use your NSSE survey for her research as well as your GPA and ACT scores as provided by the Registrar's Office.

Printer Name	Signature
Social Security Number	Date

The College Student Report 2004

National Survey of Student Engagement

1 **In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples: ☒ or ■**

	Very often	Often	Some-times	Never
a. Asked questions in class or contributed to class discussions	☐	☐	☐	☐
b. Made a class presentation	☐	☐	☐	☐
c. Prepared two or more drafts of a paper or assignment before turning it in	☐	☐	☐	☐
d. Worked on a paper or project that required integrating ideas or information from various sources	☐	☐	☐	☐
e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	☐	☐	☐	☐
f. Come to class without completing readings or assignments	☐	☐	☐	☐
g. Worked with other students on projects **during class**	☐	☐	☐	☐
h. Worked with classmates **outside of class** to prepare class assignments	☐	☐	☐	☐
i. Put together ideas or concepts from different courses when completing assignments or during class discussions	☐	☐	☐	☐
j. Tutored or taught other students (paid or voluntary)	☐	☐	☐	☐
k. Participated in a community-based project (e.g., service learning) as part of a regular course	☐	☐	☐	☐
l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	☐	☐	☐	☐
m. Used e-mail to communicate with an instructor	☐	☐	☐	☐
n. Discussed grades or assignments with an instructor	☐	☐	☐	☐
o. Talked about career plans with a faculty member or advisor	☐	☐	☐	☐
p. Discussed ideas from your readings or classes with faculty members outside of class	☐	☐	☐	☐
q. Received prompt feedback from faculty on your academic performance (written or oral)	☐	☐	☐	☐
r. Worked harder than you thought you could to meet an instructor's standards or expectations	☐	☐	☐	☐
s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	☐	☐	☐	☐
t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	☐	☐	☐	☐
u. Had serious conversations with students of a different race or ethnicity than your own	☐	☐	☐	☐
v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	☐	☐	☐	☐

2 **During the current school year, how much has your coursework emphasized the following mental activities?**

	Very much	Quite a bit	Some	Very little
a. **Memorizing** facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	☐	☐	☐	☐
b. **Analyzing** the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	☐	☐	☐	☐
c. **Synthesizing** and organizing ideas, information, or experiences into new, more complex interpretations and relationships	☐	☐	☐	☐
d. **Making judgments** about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	☐	☐	☐	☐
e. **Applying** theories or concepts to practical problems or in new situations	☐	☐	☐	☐

3 Mark the box that best represents the extent to which your examinations during the current school year challenged you to do your best work.

Very little						Very much
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

4 During the current *school year*, about how much reading and writing have you done?

	None	Between 1 and 4	Between 5 and 10	Between 11 and 20	More than 20
a. Number of assigned textbooks, books, or book-length packs of course readings	☐	☐	☐	☐	☐
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	☐	☐	☐	☐	☐
c. Number of written papers or reports of **20 pages or more**	☐	☐	☐	☐	☐
d. Number of written papers or reports **between 5 and 19 pages**	☐	☐	☐	☐	☐
e. Number of written papers or reports of **fewer than 5 pages**	☐	☐	☐	☐	☐

5 In a *typical week*, how many homework problem sets do you complete?

	None	1-2	3-4	5-6	More than 6
a. Number of problem sets that take you **more** than an hour to complete	☐	☐	☐	☐	☐
b. Number of problem sets that take you **less** than an hour to complete	☐	☐	☐	☐	☐

6 In your experience at your institution during the current *school year*, about how often have you done each of the following?

	Very often	Often	Some-times	Never
a. Attended an art exhibit, gallery, play, dance, or other theater performance	☐	☐	☐	☐
b. Exercised or participated in physical fitness activities	☐	☐	☐	☐
c. Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	☐	☐	☐	☐

7 Which of the following have you done or do you plan to do before you graduate from your institution?

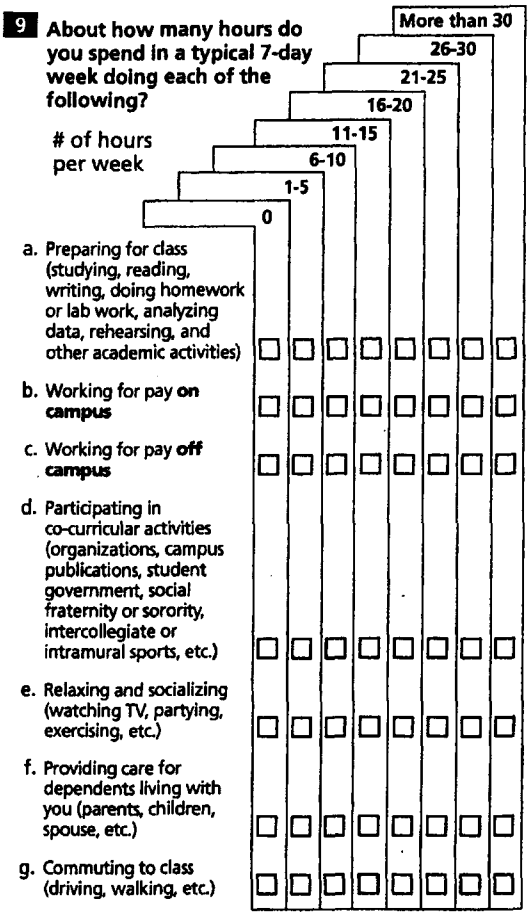
	Done	Plan to do	Do not plan to do	Have not decided
a. Practicum, internship, field experience, co-op experience, or clinical assignment	☐	☐	☐	☐
b. Community service or volunteer work	☐	☐	☐	☐
c. Participate in a learning community or some other formal program where groups of students take two or more classes together	☐	☐	☐	☐
d. Work on a research project with a faculty member outside of course or program requirements	☐	☐	☐	☐
e. Foreign language coursework	☐	☐	☐	☐
f. Study abroad	☐	☐	☐	☐
g. Independent study or self-designed major	☐	☐	☐	☐
h. Culminating senior experience (comprehensive exam, capstone course, thesis, project, etc.)	☐	☐	☐	☐

8 Mark the box that best represents the quality of your relationships with people at your institution.

Relationships with:

a. Other Students	b. Faculty Members	c. Administrative Personnel and Offices
Friendly, Supportive, Sense of Belonging	**Available, Helpful, Sympathetic**	**Helpful, Considerate, Flexible**
7 ☐	7 ☐	7 ☐
6 ☐	6 ☐	6 ☐
5 ☐	5 ☐	5 ☐
4 ☐	4 ☐	4 ☐
3 ☐	3 ☐	3 ☐
2 ☐	2 ☐	2 ☐
1 ☐	1 ☐	1 ☐
Unfriendly, Unsupportive, Sense of Alienation	**Unavailable, Unhelpful, Unsympathetic**	**Unhelpful, Inconsiderate, Rigid**

9 About how many hours do you spend in a typical 7-day week doing each of the following?



a. Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)
b. Working for pay **on campus**
c. Working for pay **off campus**
d. Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, intercollegiate or intramural sports, etc.)
e. Relaxing and socializing (watching TV, partying, exercising, etc.)
f. Providing care for dependents living with you (parents, children, spouse, etc.)
g. Commuting to class (driving, walking, etc.)

10 To what extent does your institution emphasize each of the following?

	Very much	Quite a bit	Some	Very little
a. Spending significant amounts of time studying and on academic work	☐	☐	☐	☐
b. Providing the support you need to help you succeed academically	☐	☐	☐	☐
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	☐	☐	☐	☐
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	☐	☐	☐	☐
e. Providing the support you need to thrive socially	☐	☐	☐	☐
f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)	☐	☐	☐	☐
g. Using computers in academic work	☐	☐	☐	☐

11 To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
a. Acquiring a broad general education	☐	☐	☐	☐
b. Acquiring job or work-related knowledge and skills	☐	☐	☐	☐
c. Writing clearly and effectively	☐	☐	☐	☐
d. Speaking clearly and effectively	☐	☐	☐	☐
e. Thinking critically and analytically	☐	☐	☐	☐
f. Analyzing quantitative problems	☐	☐	☐	☐
g. Using computing and information technology	☐	☐	☐	☐
h. Working effectively with others	☐	☐	☐	☐
i. Voting in local, state, or national elections	☐	☐	☐	☐
j. Learning effectively on your own	☐	☐	☐	☐
k. Understanding yourself	☐	☐	☐	☐
l. Understanding people of other racial and ethnic backgrounds	☐	☐	☐	☐
m. Solving complex real-world problems	☐	☐	☐	☐
n. Developing a personal code of values and ethics	☐	☐	☐	☐
o. Contributing to the welfare of your community	☐	☐	☐	☐
p. Developing a deepened sense of spirituality	☐	☐	☐	☐

12 Overall, how would you evaluate the quality of academic advising you have received at your institution?

☐ Excellent
☐ Good
☐ Fair
☐ Poor

13 How would you evaluate your entire educational experience at this institution?

☐ Excellent
☐ Good
☐ Fair
☐ Poor

14 If you could start over again, would you go to the *same institution* you are now attending?

☐ Definitely yes
☐ Probably yes
☐ Probably no
☐ Definitely no

15 Write in your year of birth: 1 9 [ ] [ ]

16 Your sex

☐ Male ☐ Female

17 Are you an international student or foreign national?

☐ Yes ☐ No

18 Are you of Hispanic, Latino, or Spanish origin?

☐ Yes ☐ No

19 What is your racial or ethnic identification? (Mark all that apply.)

☐ American Indian or other Native American
☐ Asian American or Pacific Islander
☐ Black or African American
☐ White
☐ Other, specify: [ ]

20 What is your current classification in college?

☐ Freshman/first-year ☐ Senior
☐ Sophomore ☐ Unclassified
☐ Junior

21 Did you begin college at your current institution or elsewhere?

☐ Started here ☐ Started elsewhere

22 Since high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)

☐ Vocational or technical school
☐ Community or junior college
☐ 4-year college other than this one
☐ None
☐ Other, specify: [ ]

23 Thinking about this current academic term, how would you characterize your enrollment?

☐ Full-time ☐ Less than full-time

24 Are you a member of a social fraternity or sorority?

☐ Yes ☐ No

25 Are you a student-athlete on a team sponsored by your institution's athletics department?

☐ Yes ☐ No (go to question 26)

On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:

[ ]

26 What have most of your grades been up to now at this institution?

☐ A ☐ B ☐ C
☐ A- ☐ B- ☐ C- or lower
☐ B+ ☐ C+

27 Which of the following best describes where you are living now while attending college?

☐ Dormitory or other campus housing (not fraternity/sorority house)
☐ Residence (house, apartment, etc.) within **walking distance** of the institution
☐ Residence (house, apartment, etc.) within **driving distance**
☐ Fraternity or sorority house

28 What is the highest level of education that your parent(s) completed? (Mark one box per column.)

Father	Mother	
☐	☐	Did not finish high school
☐	☐	Graduated from high school
☐	☐	Attended college but did not complete degree
☐	☐	Completed an associate's degree (A.A., A.S., etc.)
☐	☐	Completed a bachelor's degree (B.A., B.S., etc.)
☐	☐	Completed a master's degree (M.A., M.S., etc.)
☐	☐	Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

29 Please print your primary major or your expected primary major.

[ ]

30 If applicable, please print your second major or your expected second major (*not* minor, concentration, etc.).

[ ]

THANKS FOR SHARING YOUR VIEWS!

After completing *The Report*, please put it in the enclosed postage-paid envelope and deposit it in any U.S. Postal Service mailbox. Questions or comments? Contact the National Survey of Student Engagement, Indiana University, 1900 East Tenth Street, Eigenmann Hall Suite 419, Bloomington IN 47406-7512 or nsse@indiana.edu or www.iub.edu/~nsse.

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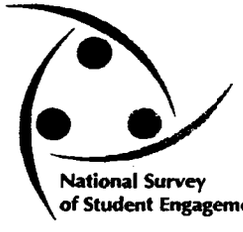

National Survey of Student Engagement
The College Student Report
2004 Codebook

Please note the following for the NSSE dataset and codebook:

- Invalid and nonresponses are coded as missing "." in the dataset.
- Slight differences exist among the versions of *The College Student Report* from year to year.
  For information regarding modifications, please refer to the NSSE website: (http://www.indiana.edu/~nsse/html/codebook.html).
- An asterisk (*) denotes a new item first used in the 2004 version of *The College Student Report*.
- A superscript "a" (ª) denotes an item in the 2004 version of *The College Student Report* with slightly different wording from the 2003 version.

National Survey of Student Engagement

2004 Codebook

Question 1. In your experience at your institution during the current school year, about how often have you done each of the following?

1a.	CLQUEST	Asked questions in class or contributed to class discussions	1=Never 2=Sometimes 3=Often 4=Very often
1b.	CLPRESEN	Made a class presentation	1=Never 2=Sometimes 3=Often 4=Very often
1c.	REWROPAP	Prepared two or more drafts of a paper or assignment before turning it in	1=Never 2=Sometimes 3=Often 4=Very often
1d.	INTEGRAT	Worked on a paper or project that required integrating ideas or information from various sources	1=Never 2=Sometimes 3=Often 4=Very often
1e.	DIVCLASS	Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	1=Never 2=Sometimes 3=Often 4=Very often
1f.	CLUNPREP	Come to class without completing readings or assignments	1=Never 2=Sometimes 3=Often 4=Very often
1g.	CLASSGRP	Worked with other students on projects during class	1=Never 2=Sometimes 3=Often 4=Very often
1h.	OCCGRP	Worked with classmates outside of class to prepare class assignments	1=Never 2=Sometimes 3=Often 4=Very often

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1i	INTIDEAS	Put together ideas or concepts from different courses when completing assignments or during class discussions	1=Never 2=Sometimes 3=Often 4=Very often
1j.	TUTOR	Tutored or taught other students (paid or voluntary)	1=Never 2=Sometimes 3=Often 4=Very often
1k.	COMMPROJ	Participated in a community-based project (e.g., service learning) as part of a regular course	1=Never 2=Sometimes 3=Often 4=Very often
1l.	ITACADEM	Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	1=Never 2=Sometimes 3=Often 4=Very often
1m.	EMAIL	Used e-mail to communicate with an instructor	1=Never 2=Sometimes 3=Often 4=Very often
1n.	FACGRADE	Discussed grades or assignments with an instructor	1=Never 2=Sometimes 3=Often 4=Very often
1o.	FACPLANS	Talked about career plans with a faculty member or advisor	1=Never 2=Sometimes 3=Often 4=Very often
1p.	FACIDEAS	Discussed ideas from your readings or classes with faculty members outside of class	1=Never 2=Sometimes 3=Often 4=Very often
1q.	FACFEED	Received prompt feedback from faculty on your academic performance (written or oral)	1=Never 2=Sometimes 3=Often 4=Very often

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1r.	WORKHARD	Worked harder than you thought you could to meet an instructor's standards or expectations	1=Never 2=Sometimes 3=Often 4=Very often
1s.	FACOTHER	Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	1=Never 2=Sometimes 3=Often 4=Very often
1t.	OOCIDEAS	Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	1=Never 2=Sometimes 3=Often 4=Very often
1u.	DIVRSTUD	Had serious conversations with students of a different race or ethnicity than your own	1=Never 2=Sometimes 3=Often 4=Very often
1v.	DIFFSTU2	Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1=Never 2=Sometimes 3=Often 4=Very often

Question 2. During the current school year, how much has your coursework emphasized the following mental activities?

2a.	MEMORIZE	**Memorizing** facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	1=Very little 2=Some 3=Quite a bit 4=Very much
2b.	ANALYZE	**Analyzing** the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	1=Very little 2=Some 3=Quite a bit 4=Very much
2c.	SYNTHESZ	**Synthesizing** and organizing ideas, information, or experiences into new, more complex interpretations and relationships	1=Very little 2=Some 3=Quite a bit 4=Very much

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2d.	EVALUATE	**Making judgments** about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	1=Very little 2=Some 3=Quite a bit 4=Very much
2e.	APPLYING	Applying theories or concepts to practical problems or in new situations	1=Very little 2=Some 3=Quite a bit 4=Very much

3.	EXAMS	**Mark the box that best represents the extent to which your examinations during the current school year challenged you to do your best work.**	1=Very little 2= 3= 4= 5= 6= 7=Very much

Question 4. During the current *school year*, about how much reading and writing have you done?

4a.	READASGN	Number of assigned textbooks, books, or book-length packs of course readings	1=None 2=Between 1 and 4 3=Between 5 and 10 4=Between 11 and 20 5=More than 20
4b.	READOWN	Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	1=None 2=Between 1 and 4 3=Between 5 and 10 4=Between 11 and 20 5=More than 20
4c.	WRITEMOR	Number of written papers or reports of **20 pages or more**	1=None 2=Between 1 and 4 3=Between 5 and 10 4=Between 11 and 20 5=More than 20

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4d.	WRITEMID	Number of written papers or reports between 5 and 19 pages	1=None 2=Between 1 and 4 3=Between 5 and 10 4=Between 11 and 20 5=More than 20
4e.	WRITESML	Number of written papers or reports of fewer than 5 pages	1=None 2=Between 1 and 4 3=Between 5 and 10 4=Between 11 and 20 5=More than 20

Question 5. In a *typical week*, how many homework problem sets do you complete?

5a.	PROBSETA	Number of problem sets that take you more than an hour to complete	1=None 2=1-2 3=3-4 4=5-6 5=More than 6
5b.	PROBSETB	Number of problem sets that take you less than an hour to complete	1=None 2=1-2 3=3-4 4=5-6 5=More than 6

Question 6. In your experience at our institution during the current *school year*, about how often have you done each of the following?

6a.*	ATTDARTS	Attended an art exhibit, gallery, play, dance, or other theater performance	1=Never 2=Sometimes 3=Often 4=Very often
6b.*	EXERCISE	Exercised or participated in physical fitness activities	1=Never 2=Sometimes 3=Often 4=Very often

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6c.*	WORSHIP	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1=Never 2=Sometimes 3=Often 4=Very often

Question 7. Which of the following have you done or do you plan to do before you graduate from your institution?

7a.*	INTERN	Practicum, internship, field experience, co-op experience, or clinical assignment	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done
7b.*	VOLUNTER	Community service or volunteer work	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done
7c.*	LEARNCOM	Participate in a learning community or some other formal program where groups of students take two or more classes together	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done
7d.*	RESEARCH	Work on a research project with a faculty member outside of course or program requirements	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done
7e.*	FORLANG	Foreign language coursework	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done
7f.*	STUDYABR	Study abroad	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done
7g.*	INDSTUDY	Independent study or self-designed major	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done

7h.[a]	SENIORX	Culminating senior experience (comprehensive exam, capstone course, thesis, project, etc.)	1=Have not decided 2=Do not plan to do 3=Plan to do 4=Done

Question 8. Mark the box that best represents the quality of your relationships with people at your institution.

8a.	ENVSTU	**Relationships with:** Other Students	1=Unfriendly, Unsupportive, Sense of Alienation 2= 3= 4= 5= 6= 7=Friendly, Supportive, Sense of Belonging
8b.	ENVFAC	**Relationships with:** Faculty Members	1=Unavailable, Unhelpful, Unsympathetic 2= 3= 4= 5= 6= 7=Available, Helpful, Sympathetic
8c.	ENVADM	**Relationships with:** Administrative Personnel and Offices	1=Unhelpful, Inconsiderate, Rigid 2= 3= 4= 5= 6= 7=Helpful, Considerate, Flexible

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Question 9. About how many hours do you spend in a typical 7-day week doing each of the following? (# of hours per week)

9a.	ACADPR01	Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours
9b.	WORKON01	Working for pay on campus	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours
9c.	WORKOF01	Working for pay off campus	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours
9d.	COCURR01	Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, intercollegiate or intramural sports, etc.)	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours

9e.	SOCIAL01	Relaxing and socializing (watching TV, partying, exercising, etc.)	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours
9f.	CAREDE01	Providing care for dependents living with you (parents, children, spouse, etc.)	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours
9g.	COMMUTE	Commuting to class (driving, walking, etc.)	1=0 hours 2=1-5 hours 3=6-10 hours 4=11-15 hours 5=16-20 hours 6=21-25 hours 7=26-30 hours 8=More than 30 hours

Question 10. To what extent does your institution emphasize each of the following?

10a.	ENVSCHOL	Spending significant amounts of time studying and on academic work	1=Very little 2=Some 3=Quite a bit 4=Very much
10b.	ENVSUPRT	Providing the support you need to help you succeed academically	1=Very little 2=Some 3=Quite a bit 4=Very much

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10c.	ENVDIVRS	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	1=Very little 2=Some 3=Quite a bit 4=Very much
10d.	ENVNACAD	Helping you cope with your non-academic responsibilities (work, family, etc.)	1=Very little 2=Some 3=Quite a bit 4=Very much
10e.	ENVSOCAL	Providing the support you need to thrive socially	1=Very little 2=Some 3=Quite a bit 4=Very much
10f.	ENVEVENT	Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)	1=Very little 2=Some 3=Quite a bit 4=Very much
10g.	ENVCOMPT	Using computers in academic work	1=Very little 2=Some 3=Quite a bit 4=Very much

Question 11. To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

11a.	GNGENLED	Acquiring a broad general education	1=Very little 2=Some 3=Quite a bit 4=Very much
11b.	GNWORK	Acquiring job or work-related knowledge and skills	1=Very little 2=Some 3=Quite a bit 4=Very much
11c.	GNWRITE	Writing clearly and effectively	1=Very little 2=Some 3=Quite a bit 4=Very much

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11d.	GNSPEAK	Speaking clearly and effectively	1=Very little 2=Some 3=Quite a bit 4=Very much
11e.	GNANALY	Thinking critically and analytically	1=Very little 2=Some 3=Quite a bit 4=Very much
11f.	GNQUANT	Analyzing quantitative problems	1=Very little 2=Some 3=Quite a bit 4=Very much
11g.	GNCMPTS	Using computing and information technology	1=Very little 2=Some 3=Quite a bit 4=Very much
11h.	GNOTHERS	Working effectively with others	1=Very little 2=Some 3=Quite a bit 4=Very much
11i.	GNCITIZN	Voting in local, state, or national elections	1=Very little 2=Some 3=Quite a bit 4=Very much
11j.	GNINQ	Learning effectively on your own	1=Very little 2=Some 3=Quite a bit 4=Very much
11k.	GNSELF	Understanding yourself	1=Very little 2=Some 3=Quite a bit 4=Very much
11l.	GNDIVERS	Understanding people of other racial and ethnic backgrounds	1=Very little 2=Some 3=Quite a bit 4=Very much

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11m.	GNPROBSV	Solving complex real-world problems	1=Very little 2=Some 3=Quite a bit 4=Very much
11n.	GNETHICS	Developing a personal code of values and ethics	1=Very little 2=Some 3=Quite a bit 4=Very much
11o.	GNCOMMUN	Contributing to the welfare of your community	1=Very little 2=Some 3=Quite a bit 4=Very much
11p.*	GNSPIRIT	Developing a deepened sense of spirituality	1=Very little 2=Some 3=Quite a bit 4=Very much
12.	ADVISE	Overall, how would you evaluate the quality of academic advising you have received at your institution?	1=Poor 2=Fair 3=Good 4=Excellent
13.	ENTIREXP	How would you evaluate your entire educational experience at this institution?	1=Poor 2=Fair 3=Good 4=Excellent
14.	SAMECOLL	If you could start over again, would you go to the *same institution* you are now attending?	1=Definitely no 2=Probably no 3=Probably yes 4=Definitely yes
15.	BIRTHYR	Write in your year of birth	

16.	SEX	Your sex	1=Male 2=Female

17.	INTERNAT	Are you an international student or foreign national?	1=No 2=Yes

Question 18. Are you of Hispanic, Latino, or Spanish origin?

Question 19. What is your racial or ethnic identification? (Mark all that apply.)

NOTES: 1. The responses to questions 18 and 19 were recoded into the new variable RACE using the categories below. All original responses may be found on the data file CD (RELATINO, REAMIND, REASIAN, REAFRAM, REWHITE, REOTHR1, REOTHR2).

2. In the creation of the variable RACE, students who wrote in responses for "Other" races/ethnicities (REOTHR2) were coded to existing categories (African American/Black, American Indian/Alaska Native, Asian/Pacific Islander, Caucasian/White, Hispanic) using the U.S. Census Bureau's 2000 American Community Survey codes as a guide. In instances where students' responses did not fit with the guide, students were either coded as other (e.g., "American"), multi-racial (e.g., "bi-racial"), or as missing (e.g., "This question doesn't matter"). In addition, students' who checked more than one race/ethnicity were coded as multi-racial. For further details, please contact NSSE at (812) 856-5824.

	RACE	NSSE recoded race/ethnicity variable	1=African American / Black 2=American Indian / Native American 3=Asian/Pacific Islander 4=Caucasian/White 5=Hispanic/Latino/Spanish Origin 6=Other 7=Multi-racial
20.	CLASS	What is your current classification in college?	1=Freshman/first-year 2=Sophomore 3=Junior 4=Senior 5=Unclassified
21.	ENTER	Did you begin college at your current institution or elsewhere?	1=Started here 2=Started elsewhere

Question 22. Since high school, which of the following types of schools have you attended other than the one you are attending now?

This question asks students to select all options that apply. To permit multiple responses, the question is represented in this codebook by five separate items that the student either checks or does not check.

22.	VOCTECH	Vocational or technical school	1=Checked
	COMMCOLL	Community or junior college	1=Checked
	FOURYEAR	4-year college other than this one	1=Checked
	NONE	None	1=Checked
	OTHRCOL1	Other	1=Checked
	OTHRCOL2	Specify: (Write in)	
23.	ENRLMENT	Thinking about this current academic term, how would you characterize your enrollment?	1=Less than full-time 2=Full-time

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24.	FRATSORO	Are you a member of a social fraternity or sorority?		1=No 2=Yes
25a.	ATHLETE	Are you a student-athlete on a team sponsored by your institution's athletics department?		1=No 2=Yes
25b.*	ATHTEAM	On what team(s) are you an athlete (e.g., football, swimming)? (Write-in)		
25c.*	TEAMCODE	Created by recoding (ATHTEAM)	1=Baseball 2=Basketball 3=Bowling 4=Cross Country 5=Fencing 6=Field Hockey 7=Football 8=Golf 9=Gymnastics 10=Ice Hockey 11=Track & Field 12=Lacrosse	13=Rifle 14=Rowing 15=Skiing 16=Soccer 17=Softball 18=Swimming & Diving 19=Tennis 20=Volleyball 21=Water Polo 22=Wrestling 23=Other
26.	GRADES04	What have most of your grades been up to now at this institution?		1=C-, or lower 2=C 3=C+ 4=B- 5=B 6=B+ 7=A- 8=A
27.	LIVENOW	Which of the following best describes where you are living now while attending college?		1=Dormitory or other campus housing (not fraternity/sorority house) 2=Residence (house, apartment, etc.) within walking distance of the institution 2=Residence (house, apartment, etc.) within walking distance of the institution 4=Fraternity or sorority house

Question 28. What is the highest level of education that your parent(s) completed? (Mark one box per column.)

28a.	FATHREDU	Father's educational attainment	1=Did not finish high school 2=Graduated from high school 3=Attended college but did not complete degree 4=Completed an associate's degree (A.A., A.S., etc.) 5=Completed a bachelor's degree (B.A., B.S., etc.) 6=Completed a master's degree (M.A., M.S., etc.) 7=Completed a doctoral degree (Ph.D., J.D., M.D., etc.)
28b.	MOTHREDU	Mother's educational attainment	1=Did not finish high school 2=Graduated from high school 3=Attended college but did not complete degree 4=Completed an associate's degree (A.A., A.S., etc.) 5=Completed a bachelor's degree (B.A., B.S., etc.) 6=Completed a master's degree (M.A., M.S., etc.) 7=Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

29.	MAJRPRIM	Please print your primary major, or your expected primary major.
30.	MAJRSECD	If applicable, please print your second major or your expected second major (*not* minor, concentration, etc.).

The Variables MAJRPCOD and MAJRSCOD were created by NSSE staff; MAJRPRIM and MAJRSECD were recoded into one of the 85 majors below. Whenever possible, we used the CIP 2000 major categorization to guide the recodings. Any questions should be directed to NSSE at 812-856-5824.

31.	MAJRPCOD Created by recoding primary write-in major (MAJRPRIM)	MAJRSCOD Created by recoding second write-in major (MAJRSECD)	**Arts and Humanities** 1=Art, fine and applied 2=English (language and literature) 3=History 4=Journalism 5=Language and literature (except English) 6=Music 7=Philosophy 8=Speech 9=Theater or drama 10=Theology or religion 11=Other arts & humanities **Biological Sciences** 12=Biology (general) 13=Biochemistry or biophysics 14=Botany 15=Environmental science 16=Marine (life) science 17 Microbiology or bacteriology 18=Zoology 19=Other biological science **Business** 20=Accounting 21=Business administration (general) 22=Finance 23=International business 24=Marketing 25=Management 26=Other business **Education** 27=Business education 28=Elementary/middle school education 29=Music or art education 30=Physical education or recreation 31=Secondary education 32=Special education 33=Other education **Engineering** 34=Aero-/astronautical engineering 35=Civil engineering 36=Chemical engineering 37=Electrical or electronic engineering 38=Industrial engineering 39=Materials engineering 40=Mechanical engineering 41=General/other engineering	**Physical Science** 42=Astronomy 43=Atmospheric science (including meteorology 44=Chemistry 45=Earth science (including geology) 46=Mathematics 47=Physics 48=Statistics 49=Other physical science **Professional** 50=Architecture 51=Urban Planning 52=Health technology (medical, dental, laboratory) 53=Law 54=Library/archival science 55=Medicine 56 =Dentistry 57=Veterinarian 58=Nursing 59=Pharmacy 60=Allied health/other medical 61=Therapy (occupational, physical, speech) 62=Other professional **Social Science** 63=Anthropology 64=Economics 65=Ethnic studies 66=Geography 67=Political science (including government, international relations 68=Psychology 69=Social work 70=Sociology 71=Gender studies 72=Other social science **Other** 73=Agriculture 74=Communications 75=Computer science 76=Family Studies 77=Natural resources and conservation 78=Kinesiology 79=Criminal justice 80=Military science 81=Parks, recreation, leisure studies, sports management 82=Public administration 83=Technical/vocational 84= Other field 85=Undecided

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32.	MAJRPCOL Created by recoding primary write-in major (MAJRPRIM) into one of ten major fields	MAJRSCOL Created by recoding second write-in major (MAJRSECD) into one of ten major fields	1=Arts and humanities 2=Biological science 3=Business 4=Education 5=Engineering	6=Physical science 7=Professional 8=Social science 9=Other 10=Undecided

Data Provided by Your Institution

GENDER	Gender	1=Male 2=Female
ETHNICIT	Ethnicity	1=African American/Black 2=American Indian/Alaska Native 3=Asian/Pacific Islander 4=Caucasian/White 5=Hispanic 6=Other 7=Multi-racial 8=Foreign 9=Unknown
CLASSRAN	Class rank	1=Freshman/First-year student 2=Sophomore 3=Junior 4=Senior 5=Other
STUDID	Student ID	
SATT	SAT Total score	
SATM	SAT Math score	
SATV	SAT Verbal score	
ACTT	ACT Total score	

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Miscellaneous Data

CONSORTQ	Consortium questions asked	1=Consortium questions not asked 2=Consortium questions asked
SMPL01	Sample type	1=Contributes to National Norm 2=Random oversample 3=Targeted oversample 4=Locally-administered sample/oversample 5=Miscellaneous, does not contribute to National
MODECOMP	Mode of completion on ***The College Student Report***	1=Paper 2=Web
SURVEYID	Unique survey number assigned by NSSE	
IPEDS	Institutional IPEDS number	

APPENDIX J

Benchmark Questions

The following survey items fall into the benchmark of "Level of Academic Challenge"

1r. Working harder than you thought you could to meet an instructor's standards or expectations.

2b. Coursework: Analyzing the basic elements of an idea, experience or theory, and considering its components.

2c. Coursework: Synthesizing and organizing ideas, information, or experiences.

2d. Coursework: Making judgments about the value of information, arguments, or methods

2e. Coursework: Applying theories or concepts to practical problems or in new situations.

4a. Number of assigned textbooks, or book length packs of course readings.

4c. Number of written papers or reports 20 pages of more.

4d. Number of written papers or reports between 5 – 19 pages.

4e. Number of written papers or reports less than 5 pages.

9a. Hours per 7-day week spent preparing for class (studying, reading, writing, doing homework or labwork, analyzing data, rehearsing and other academic activities.

10a. Institutional: Spending significant amounts of time studying and on academic work.

The following survey items fall into the benchmark of "Active and Collaborative Learning"

1a. Asked questions in class or contributed to class discussions.

1b. Made a class presentation.

1g. Worked with other students on projects during class.

1h. Worked with classmates outside of class to prepare class assignments.

1j. Tutored or taught other students (paid or voluntary).

1k. Participated in a community-based project (e.g. service learning) as part of a regular course.

1p. Discussed ideas from your readings or classes with others outside of class.

The following survey items fall into the benchmark of "Student-Faculty Interaction"

1n. Discussed grades or assignments with an instructor.

1o. Talked about career plans with a faculty member or advisor.

1p. Discussed ideas from your readings or classes with faculty members outside of class.

1q. Received prompt feedback from faculty on your academic performance (written or oral).

1s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.).

7d. Worked on a research project with a faculty member outside of course of program requirements.

The following survey items fall into the benchmark of Enriching Educational Experiences

1l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc) to discuss or complete assignment

1u. Had serious conversations with students who are very different from you.

1v. Had serious conversations with student of a different race or ethnicity.

7a. Practicum, internship, field experience, co-op experience or clinical assignment.

7b. Community service or volunteer work.

7c. Participate in a learning community

7e. Foreign language coursework

7f. Study abroad

7g. Independent study or self-designed major

7h. Culminating experience

9d. Hours spent in co-curricular activities

10c. Encouraging contact among students from different economic, social, and racial or ehnic backgrounds.

APPENDIX K

Additional Demographics of School and Samples

Distribution by Class

	Athletes		Non-Athletes	
	N	percent	N	percent
Freshman	41	40.2	79	53
Sophomore	23	22.5	7	4.7
Junior	26	25.5	3	2
Senior	12	11.8	57	38.3
Unclassified	0	0	3	2
Total	102	100	147	100

Response by Sport

	Completed survey	Number on Team	Percent of Team	Percent of Response
Men's Basketball	8	14	57	7.8
Women's Basketball	7	9	78	6.9
Track/Cross Country*	39	56	70	38.2
Men's Golf	0	8	0	0
Women's Golf **	5	9	56	4.9
Rifle	0	6	0	0
Men's Soccer	15	24	63	14.7
Softball	13	14	93	12.4
Men's Tennis	4	8	50	3.9
Women's Tennis	0	6	0	0
Volleyball	11	11	100	10.8
Total	102	164	62	99.6

* all cross country student are on the track team; ** one golf student is also on the basketball team

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VITA

Susan Beth Hathaway

Birthdate:	November 24, 1968	
Birthplace:	St. Charles, Missouri	
Education:	1998–2005	College of William and Mary Williamsburg, Virginia Doctor of Philosophy
	1993-1997	University of Missouri-Kansas City Kansas City, Missouri Master of Arts in Education
	1987–1990	University of Missouri-Kansas City Kansas City, Missouri Bachelor of Arts